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Principles and Practices of Vocational Education

by Arthur B. Mays

PROFESSOR OF INDUSTRIAL EDUCATION
UNIVERSITY OF ILLINOIS

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PRINCIPLES AND PRACTICES OF VOCATIONAL EDUCATION

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Preface

The purpose of this book is to present to the student of education, and particularly to the student of vocational education, the principles underlying the practices of vocational education. There has long been a need for clearer understanding of the fundamental considerations upon which modern vocational education is based. This book is not concerned with the practical details of organization, administration, curriculum construction, and method except as they illustrate established practices based upon the fundamental principles of vocational education. The problems and practices of each of the several special fields of vocational education are considered, with suggestions for improvements that are consistent with the principles underlying all vocational education—of whatever level or special field. It is the hope of the author that this book will meet the need for a logically developed text suitable for both general elective college courses and for special teacher-training courses dealing with the principles of vocational education. Much of the basic material has been used for many years in the university classes of the author and has been tested for usefulness and appropriateness in interpreting vocational education as a necessary phase of a balanced educational program in a democracy. An effort was made to write the several chapters so that they could be read with interest by the general reader as well as by the college student, notwithstanding that the general form of the book is that of the conventional textbook.

This volume is based upon an earlier and somewhat more elementary book by the author, "An Introduction to Vocational Education." *Complete revision, addition of new material,* and expansion and revision of bibliographies have made this text much more extensive than the earlier book. It is hoped by the author that this expanded treatment of vocational education will prove better adapted to the needs of both the college student of the subject and the teacher in service. It is hoped also that administrators of education, as well as students and teachers, will find the book helpful.

ARTHUR B. MAYS

URBANA, ILL.
April, 1948

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CHAPTER I

The Meaning of Vocation and Vocational Education

The Significance of Vocations

Among the basic institutions of civilized society one of the most significant is vocation. Upon the continuing success of this institution depends the existence of all the others. The home, the state, the church, the school, and the courts of justice are all supported by the vocations of the people. If the population of a community, or of a nation, is improperly distributed among the essential vocations, every aspect of community or national life suffers. Furthermore, where progress of the vocations is retarded, all other social institutions are found to be unprogressive, and all human life remains on a low level. Hence it is important that every generation look well to the proper development of vocations and that the institution *vocation* be generally regarded as basic and of major concern to society.

What, then, is one's vocation? The definition accepted determines in large measure one's general attitude toward a number of economic and social problems, and particularly toward the problem of vocational education. If one holds that "a vocation means nothing but such a direction of life activities as renders them perceptibly significant to a person, because of the consequences they accomplish, and also useful to his associates,"[1] one will have a conception of the meaning and proper function of vocational education quite different from that of one who regards a vocation as one's "chief calling," "regular occupation," "chief gainful pursuit," or "special means of making a livelihood." The former definition includes practically all those human activities that are colored by, or even remotely related to, the means of "making a living," while the latter includes only those activities directly involved in the specific practices of one's "chief calling." The difference is significant. In one case, the education and *training required for successful participation in organized social* life is regarded as a single process, no distinction being made between those educative experiences which contribute chiefly or wholly to preparation for "making a living," and those for "making a life." In the other case, there is a well-defined dualism of purpose and effort in the preparation or education of the individual. In this book, vocation will be regarded as "chief calling," "chief gainful pursuit," "regular occupation," etc., though its interrelation with all the other activities of one's life will in no wise be disregarded.

Vocation and the Individual

That one's chief gainful pursuit affects the whole of one's existence cannot be questioned. But vocations differ greatly in the quality of giving color to one's whole life. A doctor, outside of office hours, cannot be only a citizen, a church member, a father, or a school trustee; he is a doctor twenty-four hours of the day. His points of view, his habits of life, even his manner of speech are determined, in large measure, by his vocation. The same may be said of the minister, the teacher, and the politician. The barber, the plumber, the dry-goods salesman, and the grocery merchant are able to a much greater degree to divest themselves of their vocation when the day's work is finished, but even they are never entirely free from the influence of their occupations. Clearly no one can completely escape from his vocation at any time, but the extent to which vocations vary in permeating power constitutes one of the important differences among them.

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[1] DEWEY, JOHN, "Democracy and Education," p. 358, The Macmillan Company, New York, 1921.

Not only do callings permeate the total life of those following them, but they determine, in large measure, one's social status, for they vary greatly in prestige. This, in a democracy, is a most striking phenomenon. Some vocations are regarded as "high" callings and have much dignity attached to them. Others are regarded as "low," and those practicing them are not treated with deference. Society seems to grade with considerable unanimity and exactness the many occupations in which its members engage as means of livelihood. The basis for the ratings is very difficult to determine. Certainly it is not the monetary reward, for society will pay a pugilist for one evening's performance more than it pays the President of the United States for four years of most exacting and responsible service. Yet the office of President obviously is held in higher honor than the vocation of pugilism. It is not the service rendered to humanity, for a successful money-maker or politician who has devoted a long life to his own profit and aggrandizement will usually be more highly honored than a devoted, self-sacrificing mother who has reared a large family of fine citizens or an altruistic, earnest, efficient schoolteacher who, by his example and instruction, has helped hundreds of boys and girls to become better and stronger men and women. If there is a definable basis, it seems to be the *special character* of the work done, and *the supposed qualifications* for such work. As these characteristics of vocations change, their prestige changes. When surgery was a rule-of-thumb trade, practiced by members of the mechanic class, it was considered of equal importance with barbering. When it developed a scientific foundation that required years of study for its mastery—study of a kind that called for the most superior intellects—society raised the status of surgery to that of a "high" calling. Another factor involved, doubtless, was the importance attached by society to the outcome of the work performed. When surgery was regarded as being on a par with barbering, human life was lightly regarded. As men came to place higher and higher value on human personality and physical well-being, the vocations that provided means of relieving pain and prolonging life were accorded greater prestige. This relationship between commonly accepted social values and the social rating of occupations that affect such values is an interesting phenomenon. The almost universal regard for those who entertain and help men momentarily to forget their troubles and anxieties is a well-known example of this relationship.

The Selective Quality of Vocations

This quality of social status, or degree of prestige, suggests the selective character of vocations. However much an individual, of any social group, may desire the honors and emoluments of a certain professional calling, he is not likely seriously to consider entering such a profession unless he is aware of the ability required and is willing to pay the price of preparation. Since this price includes years of study involving intellectual work of exceptional quality, relatively few make the attempt; and those who do usually have many of the necessary qualities for success. Men of little general ability are usually content with positions that do not require unusual powers. Physically weak men rarely try to enter vocations requiring great physical strength. Notwithstanding that almost all men strive to better their economic and social condition, most men recognize the appropriateness of the general level or status of the vocation in which they ultimately find themselves. This attitude was expressed to the author by an interurban-car conductor who said: "This is a good job for a fellow like me who ain't got much education." In like manner the son of a family high in social prestige is rarely attracted by callings that are not high in general social rating. Thus the process of selection operates even in states that are most democratic. This, of course, does not mean that men always enter the callings for which they are by nature and training best suited, but it suggests that generally vocations, because of their social status, character, demands on ability, and entrance requirements, possess important selective qualities.

Educative Values of Vocations

Vocations are not only selective but educative. They produce many changes in those pursuing them and result in important environmental adjustments. A person cannot practice the skills, apply the related knowledge, and assume the attitudes appropriate to any particular vocation without increasing his skill, enlarging the meanings of his related knowledge, and adding significance to his attitudes. This process results in a better economic and social adjustment, a broadening of the range of environmental appreciations, and an increase in the number of valuable facts and ideas possessed. In this sense, vocations produce growth of the sort usually designated as education. Obviously they vary greatly both in the degree and in the quality of the education resulting. There are innumerable factors in the situation that cause variations in outcomes. Among such factors are the susceptibility to change of the individual engaged in a given vocation, his capacity to acquire meanings, his willingness and ability to assume responsibility and to make choices, the extent and character of his general information, the range and kinds of intellectual habits and experiences he brings to his occupation, his social and intellectual background and outlook, the character of the vocation, the social rating of the vocation, and the social consequences of the practice of the vocation.

Not only do these and other factors affect the quality and degree of the educative consequences of following any particular calling, but wide variations are found in each of these factors. Hence it is impossible accurately to evaluate the educative values of the vocations, but that such values exist seems clear. In fact, there is a marked tendency in recent years to emphasize the importance of vocational experiences as means of education in contrast to school experiences. A better understanding of the magnitude of the range of individual differences has led many to realize that for a large proportion of the population, perhaps the majority, the vocational experiences constitute a more effective means of education than those of the school and may well be substituted for them. Nicholas Murray Butler once wrote of certain students "found ineligible to be permitted to enroll in any part of the university": ". . . many of them would be better advised if they sought the discipline and the education of some gainful occupation. That work itself is an educational instrument of unrivalled utility and significance usually escapes public attention. The discipline and information which some persons obtain from books and laboratories, others obtain from systematic occupation. It would be a calamity if the notion were to gain ground that every youth of whatever talent, capacity or temperament must spend the years up to eighteen, twenty or twenty-one in receiving systematic instruction in an educational institution."[2]

With reference to children under sixteen years of age, Dr. Anna Reed wrote: "In the old age, educators assumed that juvenile employment was a legislative problem; in the new age, they are coming to see that it is an educational problem—that it means the recognition of juvenile employment as a legitimate and constructive factor in education."[3] The extent to which juvenile occupational experiences may be wisely substituted for school activities is unknown, depending, in a measure, upon the ends sought. However, the complexity of modern life suggests a greater utilization of means other than the usual school activities, and doubtless a greater use of occupational experiences might well be included in the program of public education.

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[2] Butler, Nicholas Murray, Annual Report of the President, 1925, p. 30, Columbia University, *Bulletin of Information*, 26th Series, No. 10, Dec. 5, 1925.

[3] Reed, A. Y., "Junior Wage Earners," p. 123, The Macmillan Company, New York, 1920.

Vocations as Means of Service

Not only are vocations educative for the individual, but they constitute his chief means of adding to the wealth and well-being of society. In this respect the significance of a vocation is not merely economic but social, in a broad sense. Vocations vary greatly in the facility afforded for direct service to society, and individuals differ even more greatly in the purposes that motivate their vocational activities. It is true, however, that, whether a man is an illiterate, unskilled industrial worker or a cultured, altruistic professional man, his vocation affords him his chief means of playing a part in the constructive work of civilization. He may contribute through avocational activities and through direct service to the community as a church member, a Y.M.C.A. worker, or a member of various civic groups, but in the long run his major contribution will probably result from his vocational achievements.

Vocation and Economic Progress

A vocation is a social institution. Men are identified in society chiefly by the vocation to which they "belong." A common question is, "What is he?" The answer is, "He is a salesman," "He is an insurance agent," "He is a carpenter," etc. Men are thus thought of, classified, and dealt with in social and economic intercourse. That this has been the case through the ages is indicated by such names as Smith, Cooper, Fowler, Wright, Carpenter, Mason, Carver, Hunter, Cook, Shepherd, Farmer, Merchant, and Carter. It is the sum of the vocations that constitutes the economic fabric of civilized communities, rather than the sum of the individual persons belonging to the community. A person is not significant in economic life except as a member of a vocation, and his status is determined chiefly by such membership. The traditional class distinctions of nobility, peasantry, *bourgeoisie*, proletariat, capitalist, and laborer are, at base, occupational distinctions. For centuries men have organized themselves in occupational groups for the purpose of promoting the welfare of the vocations in the general competition among groups. Society continually legislates with reference to such vocational groups and, by dealing with the individuals as members of the groups concerned, recognizes the vocations as social institutions.

Since organized society is, in the main, the coordination of the vocations and of organized groups of vocations, social progress depends, in large measure, upon the progress of the vocations. Progress in the industries is the result of the increased skill and efficiency of engineering, the mechanical trades, salesmanship, management, and other industrial vocations. Business develops as the merchants, bankers, advertisers, and others become expert. And so it is throughout economic life. Economic progress is but the total of the advances made by the various vocations.

Vocations Classified

In common speech men are referred to as professional men, businessmen, farmers, or laboring men. This classification is inexact, and there does not seem to be any general agreement on the bases of such a grouping. What are the characteristic features of a profession? What are the vocations which may properly be designated as business? What kind of work is labor?

It is much easier to list the vocations that are classified by common consent as professions than to define a profession. Such a list includes medicine, law, the ministry, college president, city school superintendent, college dean, school principal, college professor, consulting engineer, research scientist, actor, artist, statesman, writer, military officer, dentist, architect, lecturer, and perhaps a few others allied to certain of these occupations. Then there are vocations occasionally referred to as professions, such as public accountant, veterinary surgeon, schoolteacher, social worker, nurse, undertaker, newspaper editor, city or state politician, photographer, pharmacist, and hospital technician—which seem to have more characteristics in common with generally recognized professions than with business or labor. An examination of this list of professions and semiprofessions reveals not a single common characteristic that clearly distinguishes them from other vocations. Neither the extent of education, expert knowledge, character of social service, or method of remuneration, nor any other factor appears that is common to the group but not found in other callings. One is therefore driven to the conclusion that the classification of *profession* is arbitrary, based solely upon custom or social dictum. When that basis is granted, it is possible to see a consequence of the social designation: Society sets certain standards of education, training, and character for each, that is, society, after arbitrarily naming certain vocations "professions," selects the persons who may engage in them. The reward for meeting the standards is a social prestige not accorded to other occupational workers.

To define business is equally difficult. Business vocations seem to include all those occupations which are not professions or semiprofessions but which concern production, manufacture, buying, selling, transporting, financing, and protecting consumable goods and that involve more responsibility and dignity than are expected of laboring men. Here too it appears to be impossible to discover a single clearly distinguishing feature among the hundreds of business occupations though there seems to be less uncertainty about them than about the professions.

In spite of the fact that the classification farmer is fairly definite in meaning, an analysis of the work of men who are so designated presents difficulties. To meet certain of these difficulties, such terms as "agriculturist," "farm manager," and "dirt farmer" have become current. Other farm activities clearly belong to the labor group.

The last of the groups, laboring men, includes all those occupations requiring chiefly manual labor, little or no educational qualifications, and usually hourly, daily, or weekly wages. It is not possible to define even this group so that the definition will unmistakably describe it: there are at least three large divisions of this group, namely, skilled, semiskilled, and unskilled labor. The term "skilled labor" is usually applied to those mechanical trades requiring a regular apprenticeship or other prolonged training and calling for the exercise of judgment and technical knowledge. Semiskilled workers are those who engage in specialized phases of a skilled trade but do not practice a whole trade. The name "unskilled labor" designates that large class of manual workers who perform the work of the world that requires little exercise of judgment and chiefly muscular dexterity and endurance rather than skill. Another means of distinguishing the grades of manual laborers is the classification based on the amount of time needed for training. Work that can be learned in a period of a few hours or a few days is designated as unskilled; work requiring several weeks for its mastery is semiskilled; and work requiring a careful training extending over a year or more is skilled. Such bases of classification are obviously inexact and not wholly satisfactory, but they seem to meet present popular needs. It is only when scientific investigation is directed toward a given problem that exact classifications are agreed on; and the systematic study of occupations is only in its initial stages.

Characteristics of Vocations

Human occupations seem to have remarkable vitality. There is good reason for doubting that any established occupation has ever wholly disappeared, notwithstanding that its significance may be changed utterly, and its methods may have become so different that it is almost unrecognizable. As customs and wants vary from generation to generation, the importance of vocations fluctuates; but somewhere on the earth, one can usually find a survival of any human occupation that has ever existed as an established means of meeting human wants. Many interesting survivals of ancient and medieval vocations no longer regarded as very important to society may be found in any city. A large number of occupations, however, retain their importance to human life through whole millenniums. This does not mean that they do not undergo changes. One of the most striking characteristics of all vocations is their tendency to change. They change in magnitude, method, and function. They change in value, in prestige, and in their demands on skill and intelligence. These changes are continuous and vary greatly in speed. One of the most interesting phenomena in organized human life is this constant variation in the character of the vocations.

Not only are the established occupations constantly changing, but new ones are arising almost daily. Many "new" vocations are really highly developed specializations of traditional occupations; the specializations have become so important that society has set them up as whole vocations. This process—the transformation of subdivisions of old vocations into new complete trades, professions, or lines of business—is continuously operating and is easily observable in the development of such occupations as those of optician, oculist, dentist, interior decorator, landscape architect, dental mechanic, high-school dean of girls, school counselor, employment manager, personnel director, and credit manager. Most of the new occupations have arisen, however, as a result of new inventions, new knowledge, and the increased complexity of civilized life. The list of such vocations is almost endless, yet it seems to be growing daily. A few that come readily to mind are the many railroad occupations; most of the automobile occupations; nearly all the occupations of the electrical industries; those having to do with aviation, the steel industries, the stock exchange, the motion-picture business, the advertising business, the heating and ventilating industry, the many fields of scientific research—both those attached to modern industry and those attached to the university—and in numerous trades and offices such occupations as typist, comptometer operator, linotype operator, pressman, steam fitter, cement finisher, asbestos worker, elevator constructor, and hoisting engineer. The list is so long and changes with such rapidity that it is impossible even to estimate the number of vocations practiced in modern civilized nations.

This multiplication of vocations is one of the chief characteristics of contemporary economic life.

In general, human vocations seem continually to increase in number, to become restricted in range, and to rise in quality. These tendencies may be explained by the increase in complexity of social and economic life, which necessitates specialization and division of occupational activities; by the continuous increase in wants; and by the rising standards of living, which result in more expert service and better quality of products. The extent of these tendencies in civilized life and in the vocations belonging to civilization is amazing.

Even a cursory view of the constantly shifting figures in the picture of contemporary vocational life impresses one with the extreme difficulty encountered by youth, who face the ever-new problem of finding a place in the scheme. There are two phases of this problem: first, the choice of the place the person would like to occupy, and, second, his preparation to occupy that place. Both aspects of the problem become increasingly difficult as the years go by. Society has long been indifferent to this dilemma facing its new members; but the ever-growing number of economic tragedies and the increasing need for more and better workers at all levels are rapidly forcing into being organized efforts to aid youth in choosing a vocation and in preparing for their advent into the bewildering turmoil of the modern work of production, distribution, and service.

The pace of economic life is so fast, and the struggle is so tense and absorbing that society is gradually relegating all the work of preparing youth to the schools. Year by year more of the total function of guidance, training, and education is allotted to the schools. The schools are far from being prepared to assume the new responsibilities heaped upon them; but whether ready or not, they now face the twofold task of aiding youth to choose its work and to prepare for it. The first of these duties educators have named vocational guidance and the second, vocational education. It is primarily with the latter that this book will deal, and it is here thought of chiefly as the task of preparing boys, girls, men, and women to participate efficiently in economic life, and, more definitely, of training them for their "chief calling"—their "special means of making a livelihood." The two phases of the total problem, choosing and preparing for a vocation, cannot be completely separated, and obviously such a division is undesirable; but each is so difficult and complicated that the schools, in harmony with the tendency of all vocational activity, have come generally to specialize the two functions. Hence, vocational education is a specialized problem of modern education.

Summary

The meaning attached to the word "vocation" is of great significance in defining the problem of vocational education. If by vocation is meant the directing of a person's life activities so as to make them significant to him and useful to his fellows, it is necessary to regard all one's education as vocational education; but if the narrower meaning of "chief means of making a livelihood" is attached to the word, vocational education becomes a specific phase of one's education. The influence over a person's life of his "calling" is great, and almost every aspect of his existence is colored by his economic occupation. Vocations are found to be both selective and educative by virtue of their demands upon the powers of those practicing them. They are difficult to classify, however, and are continually multiplying and changing their forms. The result of such changes, and of the consequent complexity of occupational life, is to make choosing and preparing for a vocational career two of the major difficulties confronting modern youth. The pressure of competition and speed in economic life has forced the schools to assume the burden, formerly borne by various other agencies, of aiding youth in their choice of occupations, and of affording opportunity for preparation to participate successfully in the vocations chosen. The latter of these tasks is designated as the problem of vocational education.

QUESTIONS AND PROBLEMS

1. List the modern vocations that were unknown in 1850. Which of these have appeared since 1900?
2. List the ancient occupations that are no longer of great importance but occasionally are found.
3. What are the chief characteristics of a profession as distinguished from a trade?
4. Why does the problem of vocational education offer so many difficulties to the public schools as they are now organized?
5. How do you account for the fact that professional writers and college professors often fail to recognize their professional training as vocational education?

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CHAPTER II

Historical Background of Modern Vocational Education in the United States[1]

Vocational education in some form has, of necessity, existed since the beginning of human life on the earth. To perpetuate life, the young must learn the means of sustaining it. Doubtless the young of primitive humanity acquired their life-sustaining knowledge and skills through unconscious imitation of the actions of their elders. Very early in the development of organized society, however, such skills and knowledge were deliberately taught to youth by the tribal elders. The means employed were direct instruction of youth in the "initiation" ceremonies, and conscious imitation by youth while attempting to engage in adult activities. This last mode of learning is so closely akin to apprenticeship that it may be correctly called a primitive form of it. In civilized life from the earliest times simple forms of apprenticeship have undoubtedly been the chief means of giving vocational education, though it is probable that during very early periods of human history schools of some sort were conducted for those who were destined for the priestly vocations. That such schools existed among the ancient Egyptians and the Hebrews seems certain, and it is not improbable that they existed among other early peoples. Thus, by means of schools and various forms of apprenticeship, man has transmitted from generation to generation the knowledge and skills necessary to sustain life and to carry on the world's work.

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[1] This chapter was published as an article in *Industrial Arts Magazine*, vol. XVIII, Nos. 11 and 12, and vol. XIX, No. 1 (1929–1930), and is reproduced through the courtesy of the Bruce Publishing Company.

Early Practices

From the earliest periods of civilized life to the closing years of the eighteenth century, there was little change in the means of vocational education. Throughout those thousands of years the priestly callings, which to the present day have been the "learned professions," seemingly have been transmitted by some kind of school; and all other vocations (with the possible exception of the military) have used some form of "learning by doing" as their chief mode of training. Both these agencies, however, have undergone many modifications through the centuries. Apprenticeship seems, at first, to have been merely a father-to-son transmittal of skill and knowledge. Later enlarged through the adoption of sons by artisans, the practice prepared the way for indentured apprenticeship as it was practiced in Egypt and other ancient countries shortly before the Christian era. In the Middle Ages during the dominance of town life by the craft guilds, indentured apprenticeship became an important social and economic institution. With the decline of the influence of the guilds, apprenticeship became a function of the state and continued as the most important means of vocational education for the skilled crafts until the development of the factory, which almost destroyed the usefulness of apprenticeship. Through all the ages, however, there has been but one way for the unskilled worker to learn to do his tasks, namely, the pickup method. It is only in recent years that any serious attention has been given to the training of the common or unskilled laborer for his work. Furthermore, the unprecedented developments in the physical sciences, in medicine, and in the social sciences since the turn of the century have greatly expanded the vocational area for which careful training is required.

Early Professional Education

For the learned workers, man has always recognized the necessity of careful education, and the teachers of such workers have in almost every case enjoyed positions of prestige and reverence. While it undoubtedly is true that much of the learning taught in the schools of philosophers, "wise men," prophets, and priests was not regarded as specific vocational education, the chief purpose of a large number of the earliest seats of learning was definitely vocational. In most cases, the training given was designed to prepare for the priesthood or other official vocations. Among the Egyptians special training was given to those destined for positions of importance as soldiers, priests, and scribes. The scribes constituted the accountants, stewards, secretaries, overseers, and managerial officials of various sorts. Their education was carefully looked after and was definitely regarded as vocational. Breasted, referring to the training of scribes of the nobles of an early period in Egypt, says: "Connected with the treasury for whose multifold records so many skilled scribes were necessary, there were schools where lads received the education and the training which fitted them for the scribal offices. Learning possessed but one aspect for the Egyptian, namely, its practical usefulness. An ideal pleasure in the search for truth, the pursuit of science for its own sake, were unknown to him."[2] Describing further the vocational education of the scribes, he shows that when a boy had finally mastered the difficult skill of writing, he "was placed in charge of some official in whose office he assisted, gradually learning the routine and the duties of the scribe's life, until he was himself competent to assume some office at the bottom of the ladder."[3] This is strikingly similar to the modern practice of training professional workers. Erman[4] indicates, however, that these boys were required early in their school career to work part of the day in the offices, their teachers being active officials. This suggests a typical part-time scheme of professional education. Ebers[5] indicates that the priests also were instructed in schools for their professional offices, including the practice of medicine.

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[2] BREASTED, JAMES HENRY, "A History of Egypt," p. 98, Charles Scribner's Sons, New York, 1912.

That there were schools for the prophets among the Hebrews seems clear from various passages in the Bible.[6] These schools seem to have been informal brotherhoods or communities of the younger men who expected to become prophets and seers, and they were presided over by some noted elder prophet. Somewhat later there appears a similar institution for the study of sacred law and for training in argument and interpretation. In these schools, groups of noted doctors of the law would meet daily in some public place—often, at Jerusalem, in a room of the Temple—where they debated and interpreted the law. There seems to have been a president or chairman of the group who propounded a subject or question upon which a qualified member of the group would discourse. These leaders, or teachers, sat upon raised seats, and at their feet, on the floor, the young men and any others ambitious to know the law or to become doctors of the law sat and listened and asked questions, occasionally engaging in the discussion.[7] This is doubtless the meaning of the assertion made by Paul the Apostle that he was "brought up in this city [Jerusalem], at the feet of Gamaliel, instructed according to the strict manner of the law of our fathers. . . ."[8] Gamaliel was a noted doctor of the law.[9]

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[3] *Ibid.*, p. 100.

[4] *Cf.* Erman, Adolf, "Life in Ancient Egypt," pp. 332–333, The Macmillan Company, New York, 1894, trans. by H. M. Tirard.

[5] Ebers, George, "Uarda," pp. 22–29, A. L. Burt Company, New York, 1876.

[6] See I Sam. 19:20, II Kings 2:3, II Kings 2:5–15, II Kings 4:38, II Kings 6:1.

[7] For detailed description with Talmudic sources, see "Bible Encyclopedia and Scriptural Dictionary," The Howard-Severance Company, Chicago,

To designate the school education given by the Greeks and Romans as vocational is hardly justifiable, but that much of it, during certain periods, was definitely utilitarian is clear. This was certainly the case in the education of Spartan youth, and a similar outlook seems to characterize the teaching of some of the Sophists at Athens who "professed to train young men for a political career."[10] The schools of rhetoric in Rome during the first century B.C. also seem to have been quite utilitarian in purpose, though they were not definitely vocational. It thus appears that, paralleling the traditional and seemingly universal practice of some form of apprenticeship as a means of training craftsmen, there were, in certain cases, schools for the education of those who engaged in the learned vocations.

The European Universities

In medieval Europe, conditions were little different from those in the earlier periods of civilization. Unskilled labor learned by having to do; skilled craftsmen were trained through some type of apprenticeship; and the priestly or learned callings were provided for by schools supplemented by apprenticeship. The practice of the learned professions was so thoroughly identified with the learning and culture of the period that it is difficult to draw a line between education for culture and specific vocational edu-

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1913, vol. III, Schools, Education. See also GRAETZ, H., "History of the Jews," vols. I and II, The Jewish Publication Society of America, Philadelphia, 1902; and POLANO, H., "The Talmud," Introduction, Leary's Book Store, Philadelphia, 1876.

[8] Acts 22:3.

[9] Acts 5:34.

[10] GRAVES, FRANK PIERREPONT, "A Student's History of Education," p. 17, The Macmillan Company, New York, 1918.

cation, but it seems clear that the purpose of the early European schools and universities was utilitarian, if not definitely vocational. The first universities of Europe appear to have been chiefly professional, certainly in the early years of their history. The first such institution was that at Salerno, near Naples. Salerno was famous for centuries as a health resort because of its medicinal waters, and it is not surprising to find a medical school growing up there quite early. Salerno was known as a school of medicine as early as the ninth century and indeed never became more than a medical school though it is sometimes referred to as the University of Salerno. It was recognized in 1231 as the school of medicine for the university created by Frederick II at Naples in 1222.

The next school of higher learning to be established primarily for professional education was the University of Bologna, which was chartered by Frederick Barbarossa in 1158 though it had been in existence for many years. Its chief work was the teaching of Roman civil law and of canon law. Later, faculties in medicine and theology were added. Next came the University of Paris; at first preeminently a school of theology, it continued to be one for centuries although it also had faculties of liberal arts, medicine, and law. It was chartered by Philip Augustus in 1200, long after its founding. Thus it appears that the first three schools of higher learning in Europe were predominantly professional in purpose.[11]

The ancient idea of craft apprenticeship as the means of preparing a person for his vocation greatly influenced early forms of university organization. Much of the terminology used by the medieval craft guilds was used in the university, and its legal status was almost identical. The three stages of student, bachelor, and master or doctor probably were conscious imitations of the craft-apprenticeship scheme of apprentice, journeyman, and master. Monroe's "Cyclopedia of Education" says of this likeness: "We may say that the ruling idea of medieval university organization was that of a trade or craft gild, with its system of apprenticeship developed through journeymanship into master, its corporate rights and its corporate responsibilities."[12] Many European universities of later dates were modeled on the pattern of Paris or of Bologna and to the present time are essentially professional in their purpose.

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[11] For more complete accounts of these institutions, see any college text on the history of education covering medieval Europe, any general reference work on education, or "Encyclopaedia Britannica."

In the United States the history of vocational education down to the close of the first quarter of the nineteenth century was little different from that of Europe through the Middle Ages. In the earliest period of American history, some form of apprenticeship constituted the chief means of training for all but the common laborer, but efforts were made almost from the first to provide some sort of school for the learned professions. Harvard College, which opened in 1638, was originally and primarily a school for the training of Christian ministers though a special professorship in theology was not established until 1721. The other early North American colleges were also established primarily for the training of ministers. As the character of the economic and social life of the country changed, the universities gradually expanded, but they developed chiefly as professional schools. The line of growth was much the same, and that of Harvard is typical: A medical school was established in 1782, a law school in 1817, a divinity school in 1819, a dental school in 1867, a graduate school of business administration in 1908, and a graduate school of education in 1920.[13] Throughout the colonial period and the first century of the history of the republic, however, the chief means of training men for the professions was a sort of apprenticeship. Young men attached themselves to some outstanding member of the profession they wished to enter, and by studying under his direction and aiding him in his professional duties they gradually acquired the knowledge and skill necessary for independent practice. Most of the ministers, lawyers, and doctors were trained in this manner from the beginning of American history to the early years of the present century. Nevertheless, during that entire time the need for professional schools was realized, and many such institutions grew up around the private teaching of prominent men engaged in the professions. As these private institutions grew in importance and influence, the universities in ever-increasing numbers began adding professional schools to their organizations. In several notable cases, private professional schools were taken over by universities, becoming departments or colleges within the larger institutions. In such fashion did vocational education for the three ancient learned professions become permanently established as a phase of school education, rather than merely as a special type of apprenticeship.

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[12] For a detailed discussion of the corporate character of medieval universities, see Universities, in Monroe, "Cyclopedia of Education," vol. V.

[13] See Harvard University, in Monroe, "Cyclopedia of Education," for a detailed account of Harvard and other old American universities.

State Schools

The state universities, which were from the first much more utilitarian in their point of view than the earlier colleges, rapidly developed professional education and early in their history expanded their offerings to include vocations other than the learned professions. The point of view of the state universities was well expressed by Andrew Sloan Draper, president of the University of Illinois from 1894 to 1904, who said: "Obviously, the American university, as no other university in the world, must regard the life and especially the employment of the people. It must exhibit catholicity of spirit; it must tolerate all creeds; it must inspire all schools; it must guard all the professions~~; and it must~~ strive to aid all the industries. It must quicken civic feeling in a system where all depends upon the rule of the people. It must stand for work, for work of hand as well as of head, where all toil is alike honorable and all worth is based upon respect for it. . . . The American university will carry the benefits of scientific research to the doors of the multitude. It will make more sanitary houses and handsomer streets, richer farms and safer railways, happier towns and thriftier cities, through the application of fundamental principles to all the activities of all the people."[14] It is not surprising, then, to find these tax-supported institutions leading the way to a remarkable extension of opportunity for vocational education in the pursuits requiring preparation of college grade. With the final passage of the Morrill Act in 1862, which provided for the establishment of the land-grant colleges, training in the higher phases of the agricultural and mechanical occupations became an established function of American public education. It should be noted, however, that Michigan established an agricultural college as early as 1857, and that Yale created a professorship in agriculture ten years earlier than that.

Polytechnic Institutes

Paralleling the development of new vocational departments in the universities and the growth of agricultural and mechanical colleges, there grew up what is known as the polytechnic institute. This type of school was designed to capitalize on the rapidly expanding knowledge of, and interest in, the physical sciences, which characterized the early years of the nineteenth century. Its purpose was to teach American youth how to make practical applications of the physical sciences to the economic life of the country. Gradually these schools became primarily engineering colleges, though they have retained their earlier names. The first such school, and one of the most famous, is Rensselaer Polytechnic Institute at Troy, N. Y., which was opened in 1825. Other noted schools of this type are Worcester Polytechnic Institute, at Worcester, Mass., established in 1868; Case School of Applied Science, at Cleveland, established in 1881; Rose Polytechnic Institute, at Terre Haute, Ind., in 1883; and

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[14] DRAPER, ANDREW SLOAN, "American Education," p. 198, Houghton Mifflin Company, Boston, 1901.

Armour Institute of Technology, at Chicago, in 1893. These schools and the others like them have played an important part in the development of vocational education in the United States and have contributed much to the economic progress of the country.

Military Schools

Of the earlier vocational schools of college grade the most unusual are unquestionably the United States Military Academy, at West Point, and the United States Naval Academy, at Annapolis. The first of these, established in 1802 to train officers for the United States Army, was probably the only school in the country where a young man might prepare for the engineering profession before 1825, when Rensselaer Polytechnic Institute opened. The Military Academy soon became famous as an engineering school, and the rapidly expanding industries of the nineteenth century eagerly sought its graduates. In more recent years United States ~~Army engineers~~ have become famous throughout the world for their exceptional engineering ability. The Naval Academy has had much the same history since its establishment, in 1845, and ranks high in the technical fields relating to naval construction. Both of these schools not only furnish instruction free but pay salaries to the students who attend. Their student bodies are carefully selected by competitive examinations after appointment by members of Congress or by the President of the United States.

Normal Schools

One other special type of vocational school that has played a significant part in the development of vocational education at the higher educational levels is the ~~normal school~~. This institution, beginning as a private enterprise in 1823, came gradually to be recognized after years of ridicule and opposition as a permanent educational agency of the state. The growth of normal schools has been rapid since they became tax-supported institutions, and they have made an incalculable contribution to the progress of common-school education in the United States. Within recent years these institutions have raised their standards to such a point that many of them are generally recognized as being of standard college rank, and most of them have now assumed the name "teachers college." These schools are unique in that they have grown up as state colleges entirely independent of the state universities and have confined their efforts to the single task of training teachers for the public schools.

Range of College Vocational Education

The progress of vocational education of college grade has been continuous and, in recent years, remarkably rapid. The public demand for this type of training has increased so greatly that the ability of the states to meet the demand has been severely taxed. The new vocational fields seeking recognition by the universities is causing the more conservative administrators of these institutions great alarm, and the end is difficult to foresee. The vocations for which training is now provided by institutions of higher learning are medicine (all branches), dentistry, veterinary science, pharmacy, law, theology (with numerous subdivisions), hotel management, industrial personnel work, social service work, teaching (all branches), educational administration, public health work, athletic coaching, newspaper work, business administration (with numerous collateral activities), engineering (all branches), agriculture, diplomacy, homemaking, library work, music, painting (and allied arts), architecture, school personnel work, and the dramatic arts. The number of vocational courses is constantly increasing, and most of the factors in modern civilization suggest a continuous development, for many years to come, of vocational education of college grade.

Schools of Less Than College Grade

The development of school vocational education of less than college grade has been similar in many respects to that of the higher grades of occupational training. It has almost invariably followed the familiar steps of (1) some form of apprenticeship, (2) gradual growth of a few private training schools, and (3) the establishment of public training schools or classes. In the earlier years of vocational-education history, this was, without exception, the line of growth. In more recent years there is a tendency to begin with private schools, omitting the apprenticeship step. The new vocations rarely recruit from apprenticeship. This fact is significant and indicates not only the growing demand for school vocational education but the increasing need for speed and efficiency in the preparation of workers for the tense economic life of the present period. A striking feature of contemporary life is the multitude of private vocational schools. Popular magazines carry many advertisements of such schools, and an astonishing number of announcements appear in the daily newspapers. Back of the contemporary situation there is a long, continuous development, which is a significant part of the whole background of vocational education in the United States.

Agricultural Schools

Vocational education of less than college grade is usually a problem of four fairly distinct divisions: agricultural education, commercial or business education, homemaking education, and industrial education. Each of these divisions has had its characteristic growth, though the broad outlines of development are the same for all. From time immemorial the arts of agriculture have been handed down from father to son (and from mother to daughter) by an informal apprenticeship. "To become a farmer, one must have grown up on a farm" is the accepted formula even today. Farmers have always been slow to accept formal instruction in their vocation and have been, through the centuries, remarkably individualistic and conservative. The growth of agricultural education has therefore been slow and has been beset by many discouragements. In the United States the national leaders realized the need for more intelligent methods of farming very early and attempted to stimulate an interest in improved methods of agriculture by publishing books and pamphlets for farmers. Early-American farmers, however, were not great readers and, for the most part, were contemptuous of "book farming." Further to encourage efficient farming the leaders of the late eighteenth century and early nineteenth century in the United States organized numerous agricultural societies. Probably the first of these was that of Philadelphia, which was organized in 1785 and had among its members Washington and Franklin. Such societies played an important part in stimulating interest in improved methods and were in large measure responsible for the later interest in agricultural schools. The idea of an agricultural school was too long a step forward for the pioneer farmer to take though a few efforts to establish schools and professorships were made quite early. These early efforts did not originate with the farmers and were concerned with the teaching of the natural sciences that were thought to underlie farming, rather than with practical farming. A. C. True, quoting from the transactions of the New York Agricultural Society cites the fact that "the legislature by an act passed April 11, 1792, had granted the sum of £1,500 for five years to the trustees of Columbia College for the purpose of endowing additional professorships, and that the trustees had instituted, among others, a professorship for natural history, chemistry, and agriculture . . . and that lectures had been given upon the different parts of the course."[15] True also mentions that the professor giving the course in agriculture wrote a pamphlet on the chemistry of manures. This fact indicates the character of the agricultural instruction in the earliest schools. The War of 1812 seems to have halted all efforts to develop agricultural education until about the middle of the century, but between 1845 and 1850 a number of private agricultural schools appeared in New York and Connecticut. Between 1825 and 1845 the manual-labor movement created much interest, its principal purpose being not to teach agriculture, but rather to enable needy classical students to pay their way through college by means of part-time farm work. Its influence on the history of agricultural education seemingly was negligible. It is interesting, however, to notice that throughout the period practically all efforts to introduce instruction in agriculture were directed toward the colleges.

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[15] TRUE, A. C., "Agricultural Education," p. 161, *Yearbook*, U.S. Department of Agriculture, 1899.

High Schools

"It was thirty years after the establishment of agricultural colleges in this country before the first successful agricultural high school was established."[16] It was a longer time yet before agricultural education reached the "common schools." The first admittedly successful agricultural high school was that established by the University of Minnesota in 1888. Almost from the start this school was a recognized success as a means of vocational education for farm boys and girls. It was soon followed by a similar school at the University of Nebraska. A few agricultural schools of secondary grade appeared in the years immediately following. Notable among these were the schools established by Alabama in each of the nine congressional districts of the state, the schools established by Wisconsin, the Baron de Hirsch Agricultural and Industrial School at Woodbine, N. J. (1894), and the National Farm School at Doylestown, Pa. (1897). A number of state and endowed schools for Negroes also taught agriculture of secondary grade during that period.[17] The 1899 *Yearbook* of the U.S. Department of Agriculture stated: "There are a few private schools in which agricultural subjects are taught. There is some agitation in favor of the introduction of agriculture in the public schools, but no definite movement in this direction has as yet been attempted." In 1898 there were only ten agricultural high schools in the country, but in May, 1909, there were about five hundred;[18] thus the movement that had started slowly had a rapid development. After 1900 agriculture came to be taught generally in the elementary schools, and numerous normal schools and agricultural colleges provided teacher-training courses for agricultural teachers. Before 1900 the efforts to push instruction down below the secondary grades were few and, in the main, ineffective. A summary of conditions at the close of the century stated: "Throughout the century efforts have been made from time to time to introduce instruction in agriculture into the common schools. These efforts have uniformly failed. . . . Thus far our common schools, especially in the rural districts, have done very little toward introducing even elementary lessons on natural objects, and much less the systematic study of the elements of any natural science."[19] The early years of the new century witnessed a steadily growing interest in agricultural education of less than college grade until the passage of the Smith-Hughes Act in 1917. Since then the development in the public schools has been remarkable.

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[16] MONROE, "Cyclopedia of Education," Agricultural Education, vol. I, p. 64.

[17] *Ibid.*

Thus it appears that agricultural education of less than college grade has developed slowly from informal apprenticeship through the private-school stage to the modern type of tax-supported vocational school or class. That is not to say, however, that all or even most farmers are now trained in schools. The ancient procedure of learning by imitation, by trial and error, with an occasional word of instruction, is still the chief means of learning to be a farmer though the tendency is toward a general adoption of school vocational education for the agricultural callings.

Early Commercial Schools

Commercial or business education has followed lines of growth similar to those of agricultural education. The keeping of accounts relating to property and business transactions is probably as old as civilization. The method used by early peoples to train youth to keep accounts and to perform other "commercial" transactions is difficult to uncover. The schooling given Egyptian youth destined to be scribes was clearly in the nature of commercial or business education, as was indicated earlier, but there is little evidence of similar training given in other ancient civilizations. One is left mainly to conjecture. The character of keeping accounts and calculating gains and losses suggests that some kind of formal instruction was given to those aspiring to the occupations practicing such arts. In the absence of direct evidence of the existence of schools, one must fall back on the supposition that the common practice was that of the time-honored method of apprenticeship. Early in European history interest in methods of bookkeeping appeared. Barber says, "It is generally accepted that the first writer on double entry bookkeeping was Luca Pacioli, an Italian mathematician and professor of sacred theology, whose *Summa de Arithmetica* was published in 1494. He was not the creator of the system, however, for single entry appears to have given way to double entry gradually in Venice, beginning about the year 1000, and the double entry system was known to Pacioli as the Venetian method. . . . A college of accountants was established in Venice in 1581. . . ." [20]

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[18] *Ibid.*

[19] *Yearbook,* 1899, U.S. Department of Agriculture, pp. 177–178.

American Commercial Schools

In North America schools for teaching accounting appeared quite early. Seybolt mentions a number of evening schools teaching this art in the early part of the eighteenth century. He found: "A Westchester indenture, of July 1, 1716, makes provision for teaching the apprentice to 'Read, Write & Cast Accoumpts to so far as the Rule of three. . . .' In some instances the apprentice was to be taught 'to Cypher so as to keep his

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[20] BARBER, EDGAR M., "A Contribution to the History of Commercial Education," p. 2, address delivered at the meeting of the Eastern Commercial Teachers' Association, Brooklyn, N. Y., 1903.

Own accounts' or 'so far as he be able to keep his Books.'"[21] It seems that in such cases the purpose of instruction in "accounts" was not to train bookkeepers but only to prepare the apprentice to care for his own accounts when he later became a merchant-craftsman. However, business training played a very important part in many of the colonial evening schools. "In most evening schools of the colonial period, writing and arithmetic were taught with special reference to the trades, and commercial pursuits. . . . For many students of this type, the course in writing would emphasize penmanship for clerical purposes."[22] A few of the many announcements of courses found by Seybolt will indicate the prevalence of commercial teaching during the colonial period: James and Samuel Giles, New York City (1759), "Book-Keeping in the True Italian Manner of Double Entry"; N. Walton and W. Heterington, Philadelphia (1745), "Merchants Accounts in the Italian Manner"; Andrew Lamb, Philadelphia (1755), "Merchants Accoumpts in the True Italian Method of Double Entry, Dr. and Cr."; A. Morton, Philadelphia (1757), "Merchant Accompts according to the true Italian Method of Dr. and Cr. by double Entry"; Peter Donworth, Salem, Massachusetts (1774), "Book-keeping after the Italian Manner, of double entry"; Robert Leeth, New York City (1752), "Book Keeping after the true Italian Method."[23] There can be no doubt that commercial training involving penmanship, bookkeeping, and other phases of business activities was widespread in colonial America.[24] In the early period of the republic, however, aside from the ever-present informal apprenticeship, it seems that American boys were limited to a few private schools for an opportunity to acquire business training. These schools rapidly increased in number after the first quarter of the century, and the operation of them became an important business. Chains of schools were organized, and much competition developed among the various concerns operating them. The popularity of the private "business colleges" seems to have reached its crest during the period from about 1850 to 1890. After that time they had to compete with the public schools. The public schools were at first slow to take an interest in commercial education, but the public demand became so general and urgent that they were forced to establish courses and departments in business training. After 1900 the commercial high school appeared, and since then the development of commercial education in the public schools has been rapid. Of even greater significance is the phenomenal growth of enrollment in commercial courses in the regular public schools. Unfortunately, commercial education was not included in the provisions of the Smith-Hughes law, but subsequent Federal legislation did make provision for some aid to this phase of vocational education.

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[21] SEYBOLT, ROBERT FRANCIS, "The Evening School in Colonial America," University of Illinois Bureau of Educational Research, Bulletin 24, pp. 21, 22, 1925.

[22] *Ibid.*, p. 24.

[23] *Ibid.*, p. 26.

[24] One striking advertisement, given by Seybolt, *ibid.*, p. 25, offers schooling in "Writing, Vulgar and Decimal Arithmetic; the Extraction of the Roots; Simple and Compound Interest; How to Purchase or Sell Annuities; Leases for Lives, or in Reversion, Freehold Estates, at Simple and Compound Interest." Other advertisements of the period indicate clearly that shorthand also was taught. See especially Seybolt's Notes on the Curriculum in

It seems clear that commercial education of less than college grade became a type of school vocational education very early and that its growth as a school activity has been relatively rapid. It has experienced much less difficulty in its growth in the schools than have the other phases of vocational education, and it is now generally recognized as an important aspect of public education. The early demand for school training for commercial pursuits resulted in the organization of many private business schools long before the people generally were ready to recognize vocational education as a public responsibility. When such recogni-

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Colonial America, *Journal of Educational Research,* November and December, 1925.

tion finally came, however, the same strong demand for commercial education produced a most remarkable and rapid development of business courses in the public schools.

Homemaking Education

The idea that girls need school training to perform their part in homemaking seems to have been suggested by the arguments advanced for introducing into the schools industrial and agricultural education for boys. Like all important social movements, it had many "beginnings." Dr. Isabel Bevier wrote: "As early as 1860, Professor Blot gave lessons in cooking in several large eastern cities. . . . The New York Cooking School in New York City claims to be the starting point in the movement for improving cooking in this country. It had its beginning in 1874 in connection with the Free Training School for Women, with Miss Juliet Carson as Superintendent of this department."[25] Various other private cooking schools were organized in the Eastern States during the last quarter of the nineteenth century. During the same period courses in domestic science were developed in the land-grant colleges of the Middle West. According to Dr. Bevier, "Iowa seems to have been the first to enter this field. The Kansas State Agricultural College began its courses and about the same time Illinois Industrial University (later, the University of Illinois) organized similar courses."[26] Following its introduction into these colleges, domestic science, as such courses formerly were called, gradually appeared in women's colleges and coeducational institutions of higher learning throughout the country. In the high schools, homemaking courses developed simultaneously with manual training and with the vocational courses offered under the provisions of the Smith-Hughes Act. An exception to this general statement is found in the development of sewing courses, but the "records show that sewing was the form in which household arts was first introduced into the public schools. Needlework was perhaps a relic of the teaching of the dame school and certainly of the convent training. . . . [The] early records of the Boston schools indicate that sewing was taught as early as 1798, that it was extended to the second and third grades in 1835, and to the fourth grade . . . in 1854."[27]

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[25] BEVIER, ISABEL, "Home Economics in Education," pp. 134, 135, J. B. Lippincott Company, Philadelphia, 1924.

[26] *Ibid.*, pp. 120–133.

Practically the same social and economic causes that brought about the introduction into the secondary schools of the other phases of vocational education operated to make the teaching of homemaking sciences and arts a school responsibility. The growth of the courses, which have been variously called "domestic science," "domestic economy," and "home economics," has been rapid in the public schools. After thousands of years of informal apprenticeship in the home, and a few years of experimental efforts by private schools in the United States to teach the science and arts of homemaking, this field of vocational education has apparently become a thoroughly established phase of American public-school education.

Industrial Education

School training for the trades and industry has a history not unlike that of the other divisions of vocational education of less than college grade. After many centuries of apprenticeship, and after the rise of the factory system, the need for school training for industrial workers arose. In the United States, the early efforts to provide such training resulted almost invariably in some type of full-time unit-trade school or evening school, and, as in the case of the other vocational education fields, the first schools were either private schools conducted for profit or privately endowed institutions. The remarkable industrial expansion during the first three decades following the Civil War caused great concern over the shortage of skilled mechanics and the lack of adequate means for training industrial workers. The controversies between organized labor and employers over apprentice training, which began during the early years of the century, had almost destroyed organized apprenticeship. It seemed clear to many that if industrial growth was to continue, the problem of trade education must be solved. Dr. W. T. Barnard wrote at that time: "Skilled labor must be had from some source, and we cannot afford to import it in bulk, if for no other reason than its expensiveness. Our own people have the first claim upon our industrial occupations, but if we are to compete for foreign trade they must be so trained as to make and keep them, in knowledge and skill, at least the equals of foreign workmen."[28] A newspaper editorial on the graduation of the first class of the trade school established by the Philadelphia Master Builders' Exchange in 1890 stated: "The great want of this age is American mechanics. We are losing each year. Our mechanics, instead of becoming better, are becoming worse. Instead of artists they have been degenerating in attainment of skill and in their mechanical profession. The great mistake is that they do not respect their own calling, and therefore others do not respect them."[29] Another editor writing of the occasion said: "The special need of the country today is educated mechanics; that is, a class of skilled industry that is more than mechanical in its aims and attainments, a class that is artistic in everything pertaining to its calling. We have plenty of men in all trades who imitate the mechanical routine they have learned, but the thorough mastery of our mechanical trades is well-nigh a lost art in the United States, and the result is that foreigners are now very largely filling the more responsible and lucrative mechanical positions."[30] In trying to meet the needs indicated in these quotations, various types of schools were established. European schools and industrial-education programs were carefully studied; but the fact that an excellent type of school in Germany would not necessarily be valuable in the United States was understood, and the institutions established during that period usually expressed the individual ideas of their founders. Descriptions of the numerous trade and technical schools started during the 1880's, the 1890's, and the decade after 1900 indicate a great variety in offerings, methods, and organizations.

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[27] *Ibid.*, p. 141.

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[28] *Eighth Annual Report* of the United States Commissioner of Labor, p. 102, 1892.

[29] *Ibid.*, p. 84.

[30] *Ibid.*, p. 84.

Trade Departments Established

Among the more significant types of school and of class were the trade departments established in higher technical schools both for full-time day pupils and for evening students who were engaged in trade work during the day. From early colonial times evening classes have played an important part in industrial education in this country.[81] Another important group of trade schools was designed for apprentices and conducted by industrial corporations. "It is probable that Hoe and Co., of New York City, the manufacturers of printing presses, was the first of the large corporations to establish a plant school. This school, established in 1872, has been from the beginning a school for apprentices in the skilled trades, chiefly for machinists. Other corporations which established such schools were: the Westinghouse Machine Company in 1888; the General Electric Company and the Baldwin Locomotive Works in 1901; the International Harvester Company in 1903, and at its McCormick plant in 1907. After 1905, the railroad companies began establishing apprentice schools, and the practice became general among them. Among the important corporations other than those mentioned having schools in 1920 were Western Electric Company; Westinghouse Electric and Manufacturing Company; Goodyear Tire and Rubber Company; Ford Motor Company; Packard Motor Company; the Norton Company; Winchester Repeating Arms Company; Mergenthaler Linotype Company; Carnegie Steel Company; National Cash Register Company; Pratt and Whitney Company; Brown and Sharpe Manufacturing Company; Warner and Swasey Company; Yale and Towne Company; Westinghouse Air Brake Company; De la Vergne Company; American Locomotive Company; and R. R. Donnelley and Sons Company. There are many other important corporations maintaining schools, but this list indicates the range and importance of the movement."[32]

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[81] See MAYS, ARTHUR B., "The Problem of Industrial Education," Chap. XI, D. Appleton-Century Company, New York, 1927.

Endowed Trade Schools

A third type of school was the endowed trade school. These schools differed greatly in character; some merely supplemented the daily occupational work of apprentices, and others attempted to train completely for journeyship. Some of the earlier schools of this type are the New York Trade School, founded in 1881; the Williamson Free School of Mechanical Trades, founded in 1888; the Baron de Hirsch Trade School of Mechanical Arts, founded in 1891; the California School of Mechanical Arts, founded in 1895; the Clara de Hirsch Trade School for Girls, founded in 1899; and the Manhattan Trade School for Girls, founded in 1901. At a later period a number of similar schools were established and after 1907 public trade schools appeared. "New York City established the Boys' Vocational School in 1909, took over the Manhattan Trade School for Girls in 1910, established the Murray Hill Vocational School for Boys in 1914, and the Brooklyn Vocational School for Boys in 1915. The Milwaukee School of Trades, founded in 1906 by the Merchants' and Manufacturers' Association, was taken over by the city in 1907. This school is the first trade school in the United States to be supported by a special municipal tax levied for industrial education. Within a few years, Philadelphia, Portland, Oregon, and Worcester, Massachusetts, established trade schools, and Boston, in 1909, took over the Boston Trade School for Girls, which was founded by private agencies in 1904."[33] During the period of the establishment of trade schools a group of educators were seeking some type of general or basic industrial training that could be legitimately sponsored by the public schools. The educational thought of the latter half of the nineteenth century precluded the possibility of specific trade instruction as a phase of public education. As a result of this quest, the type of industrial teaching known as "manual training" was introduced in 1880 by Dr. Calvin M. Woodward of Washington University, in St. Louis. Dr. Woodward's experiment in the St. Louis Manual Training School resulted in the rapid development of manual training in the public high schools and later in the public grade schools. It was held that such work developed the mechanical powers of boys in such a manner that they would be able to turn readily to any mechanical trade when they entered occupational life. From the beginning, however, the general educative value of this type of school activity was stressed, and it came in time to be regarded as valuable chiefly in the field of general education. Throughout the period of growth of the manual-training movement efforts were continued to increase the opportunities of specific trade training, and in 1917 these efforts finally culminated in the Smith-Hughes Act, providing for Federal aid for vocational education of less than college grade. Gradually it was realized that the training of skilled mechanics was not the only, nor even the largest, problem of industrial education. The rapid development of machinery and the continuous advancement in specialization of processes made the training of semiskilled workers increasingly important. As a result, there arose a demand for public part-time schools and the vestibule schools in industrial plants. Foreman training also became important as a means of ensuring training on the job for machine operators and other semiskilled workers.

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[32] *Ibid.*, pp. 118, 119.

[33] *Ibid.*, p. 101.

Newer Developments

Partly as a result of activities fostered under the Smith-Hughes Act, and partly because of the increasing realization of industry that training is necessary for all grades of workers, there has grown up in the United States a most varied offering of opportunities for industrial education. There appear now in the public schools, general continuation schools for juvenile industrial workers, part-time trade extension classes for young people apprenticed in the skilled trades, evening classes for industrial workers, full-time unit-trade classes for those preparing for the mechanical trades, cooperative part-time programs for the preparation of young industrial workers in both the skilled mechanical trades and the technical occupations in industry, and foremanship courses for the training of foremen in industrial teaching skills. Recently there has been a considerable development of technical or "junior engineer" training. In industry there are also to be found extensive training programs as vestibule schools for the training of semiskilled and unskilled workers, apprentice classes, evening study classes, upgrading courses of various kinds, and foreman-training classes. All these types of training activity have been sufficiently tested to have known values and a definite place in a complete program of industrial education. The chief problem now is that of coordinating, systematizing, and expanding the numerous efforts being made to train youth for industrial vocations. The most significant development seems to be the tendency to make public agencies responsible for industrial education.

Summary

School vocational education is not a new phenomenon. It has existed in some form for many centuries. It is probable that its earliest appearance was for the purpose of training youth for the priestly callings. It seems to have been an accepted tradition to limit school training almost exclusively to these vocations until the beginning of the nineteenth century. Gradually, training for other vocations than the "learned professions" found a place in college curriculums. The modern university offers many opportunities for vocational education, and a marked tendency to increase further the number of such opportunities is quite evident. Following the growth of vocational education in the colleges and universities, first the private, and later the public, secondary schools began making provision for the vocational-training needs of youth. This movement, developing slowly in the earlier years, has grown with remarkable rapidity since 1917, when Congress passed the Federal Vocational-education Act, providing Federal aid for certain types of vocational education. At the present time, certain aspects of agricultural education, commercial education, homemaking education, and industrial education seem to be firmly established as divisions of public education in the United States. There is a marked tendency to extend the range of vocational-education opportunities in the schools, and increasingly ~~vocational education~~ is regarded as a public responsibility.

QUESTIONS AND PROBLEMS

1. Aside from the traditional conservatism of educators, how do you account for the reluctance of the schools to train for other than the learned professions?
2. Why has agricultural education developed so rapidly since 1900? Why did it develop so slowly up to that time? To what extent was agricultural education probably affected by the growth of instruction in the natural sciences?
3. Upon what grounds do you explain the apparent tendency of vocational education to enter the schools at the college level and work downward?
4. After a study of two or three "business colleges," write a paper comparing them, in detail, with the local public-high-school commercial-education department.
5. Trace the development of industrial education in the United States from the Civil War period to the present.
6. Prepare an annotated bibliography of the history of vocational education for the professions in the United States.

7. Contrast the history of vocational education with that of general education in the United States.
8. Show the relationship, if any, between the economic history of the United States and its vocational education history.

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CHAPTER III

The Development of the Concept of Vocational Education as a School Responsibility

Slow Development of the Concept

The idea that vocations, other than the "learned professions" could, or should, be taught to youth and adults in the schools was extremely slow to develop in the United States. Throughout the history of its growth, this idea was combated more persistently by educators than by any other group of society. Educators throughout history have constituted one of the most conservative of the social elements. This is due, in part, to the fact that education of necessity has had to follow at least a step behind the prevailing social thinking and social beliefs, and partly to the fact that for nearly three centuries American educational philosophy was merely a modification of English educational thought: It was essentially aristocratic and not democratic in its basic philosophy. The aristocratic concept of education held that education must be designed to meet the needs of the "gentleman class" beyond the ability to read, write, and "cypher." If any of the "laboring class" was willing or able to acquire such education, the educator did not object; in fact, he often urged the importance, in America, of taking "culture" to the "laboring classes" in order that they might be "elevated" and thereby become better laborers. During the 1820's, 30's, 40's, and 50's, sometimes called the "era of reform," in the United States, much was said about the urgent need for helping the laboring classes to acquire "culture." The idea that the first step toward such an end is to improve the laborer's economic status by training him vocationally to do his work better seems not to have occurred to more than an insignificant minority of educators, and few of them were at all clear in their thinking as to how it could be done.

Growing Pressures for Vocational Education

The remarkable economic expansion in the years immediately preceding the War between the States, and the obvious exhaustion of the soil in the older settlements resulting from ignorance and antiquated farming methods, led during the 1840's and 50's to sufficient agitation for training those who enter business, industry, and agriculture to bring about the establishment of many "business colleges" and the land-grant agricultural and mechanical colleges. Some educators bitterly fought the establishment of agricultural and mechanical colleges and expressed either indifference or contempt for the business colleges. The advocates of agricultural education, however, introduced an idea that was to influence educational thought for many decades and help to bring about a concept of the function of the public school far more democratic than had previously existed. This new idea was that those who work at the less exalted occupations have as much right to be trained for their work at public expense as those who engage in the learned professions, and it was a revolutionary concept even in a country that considered itself the most democratic on earth.

During the era of great industrial and commercial expansion beginning in the early 1860's and extending, with slight interruption in 1873 and again in 1893, over the remainder of the century, there was a continuous pressure upon the schools to provide vocational education for the nonprofessional callings. Gradually the educator came to see that he would be forced to recognize the changing life of the nation by making an effort to meet the needs of the masses for some kind of vocational education. He was seriously limited, however, in his ability to deal with the problem realistically by certain fixed concepts concerning the public schools. In the first place, he thought of them as "*common*" schools and almost invariably referred to them as such. As *common* schools, they could not teach any type of education that would not meet common needs. No *special* education of any sort could be tolerated in the common schools. Hence, specific vocational education in the public schools was unthinkable. He therefore directed his entire attention to the problem of so organizing and teaching the *common* subjects of study as to make them of vocational value to those who would enter occupational life immediately on leaving the common school. It soon became evident, however, to those of clear vision that merely to try to make the traditional, disciplinary school subjects "more practical" was futile as a means of meeting the demands for some kind of effective vocational education.

Idea of "Basic" Vocational Education

The next attempt of the educator was to discover some means of developing a type of "basic" or "fundamental" training that would be generally applicable to all vocations of less than professional grade. This was an attractive idea to the general educator of the last quarter of the nineteenth century, and is even today a deep-seated notion of many educators. It is characteristic of the general educator to dislike any kind of specialized education. His interest is general education and he usually regards any special education not only as less than cultural in character, but even as somewhat beyond the range of his responsibilities. This is due in part to a narrow conception of what constitutes culture and in part to the persistent faith in "mental discipline" and the theory of transfer of training, and to an utterly inadequate conception of the function of public education in a democracy. To the present, many general educators have wanted to "train the mind" in school and leave to chance and the experiences of the work life of the individual his vocational training. As one dean of a liberal-arts college expressed the idea: "After all the best preparation for a vocation is a liberal education." This expression typifies the attitude of those educators throughout the history of education who are unable or unwilling to face frankly and realistically the demands of modern social and economic life, and who turn to the educational philosophy of the past for their solutions of modern educational problems.

Rise of Manual Training

During the time when this idea of a "general" or "fundamental" vocational education was at the height of its popularity, manual training was introduced into the secondary schools. It was immediately seized upon as the solution of the problem of finding such a type of basic vocational education for those who would enter industry. Many of the most influential educational leaders in the United ~~States welcomed~~ manual training with enthusiasm as the solution of the ~~problem of providing in the~~ common schools a type of vocational education that would give a general training that would prepare youth for any industrial vocation. At the same time, domestic science and domestic art were introduced to prepare girls for their one vocation of homemaking. The most urgent pressure upon the schools in the latter part of the nineteenth century, however, was brought to bear by the rapidly expanding industries and by business. Business courses were accepted by the schools ~~more readily than other vocational~~ courses because they involved the use of books ~~and the learning~~ to write and figure; besides, the business college was already a well-known and established institution. Hence the attention of the educator with reference to vocational education was focused upon industrial education.

Beginning in the late 1870's and extending well into this century, the debates among educators centered largely on the question of the advisability of accepting manual training as an integral part of the curriculum of the common or public school. Throughout the period of controversy the overwhelming consensus was that specific vocational education had no proper place in the common school. As indicated above, manual training was accepted by the majority because they saw in it a "general" or "basic" training common to all industrial vocations. It was said, also, to be "abstract" and highly "disciplinary," hence appropriate for "mind training" as well as for "hand training." Manual training was recognized not only as a form of basic vocational training but also as a contribution to the efforts some educators were making to reform the general educational curriculum, which they felt had become too bookish and remote from the life of the people.

Educational reform was very much to the fore in elementary education during the years of the debates over manual training and much hand work was being introduced into the elementary grades. Also it constituted a major part of the program of the new "kindergarten" for very young children. Hence, manual training appeared as the corresponding reform of the secondary-school curriculum. Woodward's famous demand, "Put the *whole* boy to school, his hands as well as his head," met a ready response from the educational reformers of the period. Thus it came about that soon after the introduction of manual training the emphasis began to shift from its vocational values to its disciplinary and cultural values. Its rapid spread through the secondary schools has been chiefly on the basis of its value as a phase of general education. Throughout the history of manual training the general educator has looked upon it as being both cultural and vocational, but the industrial employer and the advocate of specific vocational education have insisted, for the most part, that the need is for specific vocational training.

The inadequacy of manual training as vocational education was brought sharply to the public attention in 1906 by the Douglas Report, made by a commission appointed by Governor Douglas of Massachusetts to study the need for vocational education. This report made it clear that manual training did not meet the need for trained workers in industry. The same year the National Society for the Promotion of Industrial Education was organized; and from that time on, the pressure was renewed for what Snedden called "*real* vocational education." From 1906 to the present, the emphasis has been upon specific vocational education rather than some type of general or basic vocational training in the schools.

Idea of Separate Schools

Throughout the 1880's and 90's, there were those who strongly urged the establishment of vocational schools separate from, and running parallel to, the high school; but they were not in the majority. Objection was made that such a scheme of education would be undemocratic, though how it could have been more undemocratic than the scheme then existing is difficult to understand. The controversy over separate and unified programs of vocational education was brought most sharply to the attention of both educators and the general public by the debates in Illinois during 1912 and 1913 over a bill introduced in the state legislature to provide for a separate tax to support a separate system of vocational schools for those over sixteen years of age who were not planning to attend any college or university. It was referred to as the controversy over "the unit versus the dual system of education." The bill finally failed to pass, and its failure was supposed by educators to have settled the issue in the United States. But the question again arose over the schools organized and operated by the National Youth Administration in the years following the depression that began in 1929. Again the decision favored the concept of a unified system that includes provision for both general and vocational education under a single administration. The invariable argument for the unit system is that any other scheme will promote class cleavages and thereby weaken democracy. The argument of those who advocate a dual system is that the general educator, who usually controls the educational system, seldom is willing to provide adequately for effective programs of vocational education. Besides, it is argued, vocational education requires both a larger per capita provision of funds than general education and a far more flexible organization of instruction and administrative procedure. The general-education administrator finds it exceedingly difficult to adjust his thinking and habitual attitudes and procedures to the special requirements of vocational education.

Demand for "Real" Vocational Education

After the turn of the century, the general attitude of educators toward vocational education underwent a radical change. The pressures from outside the school to develop a national program of "real" vocational education became too great to be ignored further or temporized with, and a well-organized movement was started to obtain Federal aid for such a program. This movement was led by the National Society for the Promotion of Industrial Education, an organization composed of leaders in education, manufacturing, government, business, agriculture, and labor. The activities of the National Society resulted in the passing of the "Smith-Hughes Law," establishing a national program of vocational education.

Strangely enough, the debates among educators over the passage of the Federal Vocational Education Act turned on questions of political policy and the economic advantages of such a program of vocational education, and only slightly on the educational policy involved. There was little interest exhibited in the proposed law by educators generally, but great interest was shown by economic groups. However, after the passing of the law and the establishment of the program provided for by it the general educator became greatly concerned over the question, as he expressed it, of "Federal control of education," of "Federal interference with the public schools," and the "overemphasis" upon vocational education to the disadvantage of "cultural" education. Few educators expressed opposition to vocational education per se after 1900; their objections were directed rather toward "Federal interference." In recent years much of the earlier fear of Federal interference in local and state educational programs has disappeared, though many educators still object to Federal subventions for vocational education while other phases of education do not enjoy such financial aid. However, as the national program of vocational education has expanded, it has become increasingly established in the thinking of educators as a necessary and permanent part of the public school system.

Rapid Growth of Interest in Vocational Education

The thinking of both general and vocational educators since the close of the Second World War has been chiefly concerned with means of enlarging the program of vocational education to meet the growing educational needs of the millions of youth and adults not reached by present facilities. Both the enlarging concept of the function of public education and the growing demand for organized vocational education have made educators keenly aware of the need for an expanded program of such educational services. The rapid growth of vocational education resulting from Federal aid and the changing public attitude toward child labor have also played important roles in the growing concern of educational leaders with reference to the need for more adequate provision for vocational education of less than college grade. With the approach of the Second World War and the demand for an immediate enlargement of the national program of training, the attention of the nation was directed toward the problem of war-production training and later also toward the war-training activities of the Army and Navy. These nation-wide programs of vocational training further emphasized the growing need for a permanent and greatly enlarged program. After the war, the training of veterans and the general reorganization of business and industry added further to the interest in finding a solution to the problem of creating a genuinely democratic scheme of universal vocational education.

As a result of these and other forces affecting the thinking of the educator, the interest in vocational education has become common to all educational leaders and to all others concerned with public education. This general interest has produced in certain segments of the education world a violent reaction that expresses itself in terms of fear for the existence of the cultural features of public education. The narrow "culturalists" have in recent years called for a return to the type of schooling that will "train the mind." One well-known college president said in 1941 that the only business of the college or university is "the development of mental powers," and that, "industry, business, and the professions now insist that in-service apprenticeships or internships are much more efficient" than college training for the vocations. President Hutchins, of the University of Chicago, was quoted in 1944 as having said in an address: "The thing to do with vocational education is to forget it. As the war-training programs in industry have shown, industry can train its hands if it has to, and it can do it at lightning speed. The task of the educational system is not to train hands for industry, but to prepare enlightened citizens for our democracy and to enrich the life of the individual by giving him a sense of purpose which will illuminate not merely the 40 hours he works, but the 72 he does not. . . ."[1] Fortunately for American youth, such narrow and uninformed conceptions of vocational education are confined to a minority of educators and chiefly to those in privately supported institutions of higher learning and are not often found among public-education leaders.

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[1] Quoted in *School and Society*, vol. 60, pp. 339–340, Nov. 24, 1944.

The Modern Concept

The thinking of the leaders of public education of the modern era is expressed most typically in an address by Superintendent Alexander J. Stoddard of the Philadelphia public schools, delivered before the convention of the American Vocational Association in 1944, in which he said: "The real question is not whether there should or should not be vocational education. It is rather the extent to which the facts, knowledge, and skills involved in certain processes of service should be taught in school or college or left to apprenticeship or direct experience on the job. The question is further complicated by the fact that attitudes, appreciations, and ideals are also involved with the service processes, resulting properly in a mixing of the civic, cultural, and social with the practical aspects of the service. . . . Vocational education and what might be called general or academic education do not differ, or should not be regarded as differing in the respect in which they are usually regarded as being different. The former is not 'training of the hand' and the latter 'training of the brain.' The former is not for those only of low ability, capable only of learning how to work with their hands. Everyone ought to be educated vocationally, according to his ability and his occupational desires and everyone ought to be educated for citizenship, for effective living as an individual, and for successful participation in the society of which he is a part. In other words, every American should be prepared adequately for productive service, that is, for employment at useful occupations, and all Americans should be prepared so as to enable them to live richly and effectively in accordance with our cultural heritage. Every American should know how to make a living at a useful occupation and also be able to pursue happiness with some assurance of a reasonable expectation of success."[2]

The concept of vocational education as a necessary feature of public education in this country, which claims as one of its purposes the ensuring to all its citizens equality of opportunity to grow and achieve and to enjoy the right to "life, liberty, and the pursuit of happiness," has developed with astonishing slowness. One would expect to find a ready acceptance of vocational education as essential to any program of democratic education. Educational thinking, however, has not always followed logical lines, and educational practice has seldom exhibited a logical progression. In the early years of American educational history the mind of the educator was held in thrall by an unscientific psychology and by the tenets of an educational philosophy inherited from the Middle Ages. There was constant conflict between the rapidly changing environment and an unchanging theory of the function of the school. Before the twentieth century the traditional thinking of the educator caused him to resist the demands of the environment for fundamental changes in the schools to bring them closer to the needs of the life of the people they were supposed to serve. Schools through the ages have been reluctant to adjust themselves to the life of the people for which they were maintained to prepare the young. In every generation of educators, however, there have been a few prophetic minds who have protested against the lag of the schools behind the needs of an ever-changing society and a few far-seeing ones who desired the schools to lead the way to a better life rather than always to be resisting changes. Since these progressive leaders seem ever to be in the minority, and since their programs of reform are rarely accepted by the schools before new needs have arisen, the struggle for progress in education is a never-ending one. The acceptance of vocational education as a function of the public school has not been an exception to this condition. The public-school educator today faces the demand for universal vocational education of less than college grade for both youth and adults, for all types of vocational classes provided in close cooperation with the occupations themselves. This presents to the educator a new situation involving a greatly enlarged conception of the work of the school, and a far broader view than he previously has had of the place of vocational education in the total scheme of public education. He is, however, much better prepared today than ever before to grasp the implied concept of vocational education. That concept is the evolved product of a long period of growth in the thinking of the American educator.

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[2] Stoddard, Alexander J., The Vocational Emphasis in Education, "1945 Convention Book," pp. 6, 8, Illinois Vocational Association, 1945.

Summary

The idea that vocational education for vocations of less than professional grade is a responsibility of the public secondary school developed very slowly in the thinking of the American educator. As economic pressures forced upon the secondary schools the necessity for providing vocational education, every effort was made at first to try to meet the need merely by making the traditional subjects "more practical." Later, educators attempted to find some "general" or "basic" type of training that would be fundamental to all vocations, thus meeting the need without violating the prevailing notion that the public school should be concerned only with common education and under no circumstances with any sort of special education. For many years manual training was thought by many to meet this condition, and it was enthusiastically advocated on that basis. Later it was found to be inadequate even as industrial education, the area with which it was most closely related. It soon became recognized as a phase of general education and, after 1906, renewed efforts were made to develop specific vocational education offerings in the public secondary schools. The renewed interest in genuine vocational education resulted in 1917 in the passing of a law providing Federal aid to vocational education, and since then the attitude of most educational leaders has changed greatly from that during the latter years of the nineteenth century. Since 1917 there has been a growing tendency in the public schools to accept responsibility for vocational education but with considerable fear of too much Federal interference and Federal control. In recent years, the major concern has been to find means of expanding the program of vocational education in the schools without injuring the general-education functions of public education.

QUESTIONS AND PROBLEMS

1. What has been the effect on the educator's concept of vocational education of the change from the accepted doctrines of faculty psychology to those of "modern psychology"?
2. What do you regard as the soundest reasons for advocating the "dual system" of education as opposed to the "unit system"?
3. Why were educators in the United States so slow to accept the idea of the responsibility of the public schools for providing vocational education?
4. What are the chief factors in the modern economic and social environment that have influenced the attitude of educators toward vocational education in the secondary school?
5. How do you explain the opposition of certain educators to Federal aid for vocational education who do not object to Federal aid for all public schools?
6. How would you answer this statement: "The thing to do with vocational education is to forget it . . . industry can train its hands if it has to. . . . The task of the educational system is not to train hands for industry, but to prepare enlightened citizens for our democracy and to enrich the life of the individual by giving him a sense of purpose which will illuminate not merely the 40 hours he works, but the 72 he does not. . . ."?

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CHAPTER IV

Economic and Social Background of Vocational Education

The Outlines of the Background

The modern problem of vocational education in the United States differs from that of earlier periods chiefly in magnitude. Whereas formerly the training of men for the learned professions was the only aspect of vocational education that called for special attention from the community, now the training of both men and women and boys and girls for many occupations is a matter of public concern. This difference has been produced by economic and social changes in the national life. The factors that have brought about the new economic and social conditions may be summed up in the one expression—the industrial revolution—although undoubtedly other factors have operated to set the stage and make possible the unhampered play of the influences put in motion by the industrial revolution. In the United States among these other factors are the creed and spirit of democracy, the resources of a rich continent, and the spirit of freedom and adventure that characterizes the people. Without the industrial revolution these factors unquestionably would have produced a great nation, but not the United States of today. The application of steam power to the manufacturing processes became a practical reality at just the opportune moment to make the United States one of the greatest industrial and commercial nations of all history. It has been said by some economists that there was no industrial revolution in America; that the new industrial system was introduced into a country that had no very important industries but was ripe for the new order. Whether or not the great impetus to production that began in America at about the close of the first quarter of the nineteenth century is regarded as an industrial revolution, certainly American life, both economic and social, was vitally changed and started toward a new order of national being.

The forces producing the modern world have also created a train of problems. These problems arise chiefly from the extreme complexity of the economic and social constitution of society since the effects of the industrial revolution began to exert their full force. They arise also from the constant and rapid change that affects even the most fundamental institutions of civilization. Adjustments to rapid change and to increasing complexity are the great problems of contemporaneous life. Rising standards of living, increasing competition, specialization, and standardization of processes are special aspects of the new economic order. These, particularly, have placed a strain on the educational machinery of the nation. They have added to the burden of the schools the obligation to guarantee to every youth vocational education as well as general education. The traditional, haphazard "pickup" method of acquiring vocational preparation is not adequate for the modern world. Furthermore, at every level of occupational life there is the call for vocational training. This demand on organized education calls for a readjustment of educational programs, which to the present has proved to be beyond the ability of the educational forces. To provide the needed vocational education radical changes in physical equipment, organization, methods of instruction and administration must be made.

Colonial Background

Immediately underlying the economic history of the United States is that of the American colonies. The economic life of the colonies was little different from that of the mother country. It was, of course, modified by pioneer conditions of existence, but its essential procedures were those of seventeenth- and early eighteenth-century England. As the great economic changes of the latter part of the eighteenth century were taking place in England, the American people were preoccupied with the elemental problems of conquering mountain, forest, and river and of laying the foundations of what later became a novel experiment in government. Hence, the revolutionary changes resulting from the introduction of power machinery into the work of manufacturing had small immediate effect in North America. The social life of the people was that of an old civilization suddenly confronted with primitive conditions. It was basically European, but outwardly it was adapted to the roughness and crudities of a pioneer existence. It was remarkably democratic for its European origin, and its philosophy and trend were also markedly democratic. During the colonial period and the few years following the close of the century, the transition was almost completely made from a European economic and social scheme to a genuinely American mode of life, which henceforth was to follow characteristic lines of development. Until the change came, with the growth of the new nation, agriculture, commerce, and industry followed the old lines of hand production, chiefly for local consumption. Material wants were few and not difficult to satisfy. Society was organized on familiar lines, and the recognized problems were the old ones, common to the Western world in the centuries immediately preceding the industrial revolution. There were no cities, hence no great urban problems; no ~~factories and no serious labor problems;~~ no big business; no keen competition and no universal crowding and fighting for fame and fortune. The period was one of leisurely adaptation to new environments, and of foundation building. It was marked by no striking economic and social changes.

The Early Nineteenth Century

During the early years of the nineteenth century the economic changes that produced modern life as it is in the United States began to appear. Slowly at first, then with accelerated speed, factories appeared. With the factories came increased commerce, which in turn stimulated production. After the general adoption of steam power in manufacture, and the development of rapid transportation, the industrial city appeared. It is the industrial city that gives modern life its characteristic features. With the growth of cities came the great economic and social problems that have proved so vexing to modern society. The crowding of people into restricted quarters in the cities caused a basic change in the point of view of a large section of the population. People living under such conditions ceased to think as pioneers and farmers; and by almost imperceptible degrees the traditional American individualism gave place to mass movements, mass thinking, and a steady increase in social control of individual conduct. Those not possessing certain advantages enjoyed by others in the community came to demand equality of opportunities, which under earlier conditions had not been greatly desired. Among these were better working conditions, shorter hours, higher wages, better living conditions, better protection, better education, and better vocational training. It is out of the crowded cities that most of the social legislation comes. People living close together come to emulate one another and to want privileges and advantages possessed by those about them. Thus there gradually developed a new way of living in the United States. New standards of comfort, of achievement, of progress, and of rights appeared, which in turn meant new wants and new requirements of skill, efficiency, and knowledge.

These revolutionary changes in the national life centered in the cities, which resulted from the industrial revolution. The economic life of the nation during the last two decades of this period was clearly sketched by Lippincott, in describing the recovery from the panic of 1837: "A number of factors combined to produce these happy results. The following were some of the most important: the increase of population, now largely augmented by immigration; the rapid growth of domestic markets due to the demands of the growing population; the development of lake and river trade; the opening of farms and of resources of iron, coal, and copper; the discovery of gold in California; the rise of the overland trade to the Southwest and to the Rocky Mountain States; the introduction of many new inventions, railroad building, and the rapid growth of foreign commerce. These activities called for enlargement of enterprises of all kinds. The number of persons engaged in manufacture increased about fourfold during the years from 1820 to 1860, and the value of manufactured products probably more than eightfold. Thus the number of men engaged in manufacturing having an output of $500 or more a year increased from 349,000 in 1820 to 791,000 in 1840, and to 1,311,000 in 1860. According to the census of 1840, the total value of manufactured products was $483,278,000; it was $1,019,106,000 in 1850, and $1,885,861,000 in 1860."[1]

The first two-thirds of the nineteenth century was a stirring, busy period of beginnings. In those years nearly every essential factor of modern economic and social life had its birth. The period, closing as it did with a terrible internecine war, bequeathed to the new era beginning with the 1870's numerous difficult economic and social problems. Among these was that of vocational education. The new life required expert service and efficient production, from the standpoint of both the producer and the consumer. The latter part of the century did little to solve this problem but much to accentuate the economic and social features requiring its solution.

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[1] Lippincott, Isaac, "Economic Development of the United States," p. 198, D. Appleton-Century Company, Inc., New York, 1922.

The Latter Part of the Century

The United States entered a new period of economic development at the close of the Civil War. Small cities rapidly became great cities; prosperous commercial and industrial firms became great corporations; railroad lines became transcontinental systems; and on every hand the scale of economic life was enlarged. Writing of this period, the author quoted above said: "Indeed, the decade following the Civil War marks the beginning of one of the greatest industrial eras of all times. Even the most enthusiastic word painters of former times failed to foresee the magnitude of coming economic achievements."[2] In brief, modern life began. The notorious provincialism of American communities began to disappear, and for the first time the great masses of the population possessed a national consciousness. Contentment with living conditions devoid of comforts and laborsaving devices gave way to an ever-increasing demand for the means of pleasant and efficient living. The new cities made necessary better illumination, transportation, sanitation, and recreation. From this great desire for better things and more effective means of doing work there came a veritable flood of marvelous inventions. It seems almost incredible that so many of the "necessities" of contemporaneous life have been created since the middle of the nineteenth century. In the realm of common life there have come, since that time, the telephone, electric light, phonograph, bicycle, sleeping car, electric streetcar, typewriter, sewing machine, electric elevator, electric fan, camera, automobile, airplane, and radio. A consideration of the effects on manners and modes of living produced by even these few better known inventions of the past hundred years will suggest the almost immeasurable changes resulting from the new day that dawned about the time of the Civil War. Add to these the hundreds of inventions and scientific discoveries that serve modern society every minute in factory, laboratory, hospital, and all places where the business of life goes on, and it becomes more nearly possible to comprehend the magnitude of the forces operating on modern society. Contemporary civilization is so utterly different from any of its previous manifestations that one is balked at almost every turn by the lack of precedents and standards for interpreting and evaluating it. Such revolutionary changes, occurring in so short a span of years, inevitably produced many novel problems. A characteristic feature of present-day life is the prevalent disposition to apply the best learning and scientific methods to the solution of these problems.

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[2] *Ibid.*, p. 275.

Significant Social Changes

James Russell Lowell, in his classic essay on democracy, quoted as the ethical conception of democracy Theodore Parker's words, "Democracy meant not 'I'm as good as you are,' but 'You're as good as I am.' " That would have been an exaggerated description of the social thinking of his times in the United States, but it suggests one of the trends in the thinking of the first half of the nineteenth century. It was an era of agitation for social reform. Numerous societies were organized to strive for social changes looking toward the betterment of various underprivileged groups. The freeing of Negro slaves, providing higher education for women, giving political equality with men to women, "uplifting the laboring classes," the establishment of various types of institutions for the afflicted were some of the numerous projects occupying the social thought of the times. They were indicative of the maturing of a new democratic and definitely North American civilization. The nation was not only becoming somewhat ashamed of the discrepancies between the reverenced and frequently proclaimed pronouncements in the Declaration of Independence and the Constitution and the actual conditions of the social life, but it was beginning to see that the social implications of political democracy cannot safely be ignored. The traditional class distinctions of the colonial period were rapidly fading out of social relationships. A new social group, composed of commercial and industrial entrepreneurs, was rapidly replacing in positions of social prestige the landed aristocracy of former years. This new leadership usually rose from the bottom of the social scale, or near it, and therefore possessed an outlook very different from that of the earlier socially dominant group. More receptive to rapid changes and less secure about their position in the social scheme, these leaders were extremely jealous of their power and prominence and measured life largely in terms of economic wealth and power. The presence of such men in positions of social leadership was a constant reminder to the youth of the common people that they too might rise to the top. This was one of the interesting aspects of the growing idea of social democracy.

Throughout the nineteenth century, the common life was constantly affected by the infusion of great numbers of Europeans, chiefly of the lower social classes, with their foreign social customs and standards. The growth of population was remarkable throughout the century, and that fact also had much to do with the growing consciousness of competition, social as well as economic, and the characteristic restlessness and striving to get ahead. It also made increasingly obvious the gross inequalities of life, notwithstanding the boasted freedom and democracy. These inequalities were not merely economic in character, but were cultural as well and involved not only unequal opportunities for intellectual and spiritual growth but such great inequalities in environmental conditions that large sections of the population seemed doomed to become permanently underprivileged and submerged. Educational leaders of the latter part of the century tried to make the educational program serve to equalize intellectual opportunities, but they were slow to realize that identical educational opportunities are never equal opportunities.

Much progress has been made since the close of the nineteenth century toward the development of social democracy. Its achievement is still a major responsibility of the nation and probably lies far in the future, but it seems clear that the schools have a most significant part to play in the undertaking. Social problems cannot be permanently solved except by the efforts of the people themselves, and it is through universal education that there *is the greatest hope for such solutions. It is against this* social background that the early efforts to develop effective programs of vocational education should be viewed if their character and subsequent growth are to be understood. The social meaning of vocational education is found mainly in the fact that it serves to open the door to cultural as well as economic growth to many who cannot, for various reasons, be so served by the other areas of public education. In doing this, vocational education becomes a means of equalizing opportunities for social adjustment and cultural growth.

Recent Years

Among the modern problems demanding solution is that of supplying vocational education for those working at every level of the occupational world. Modern conditions require speed, 1 efficiency, and intelligence. Modern ideals of democracy call 2 for equality of opportunities for all levels, classes, and individuals. *Men today require not only that their preachers and* lawyers be given opportunity for proper training, but that their cooks and chauffeurs also find such opportunities. Not only the engineer, the doctor, and the architect, but the factory worker, the nurse, and the carpenter must be given a fair chance for vocational education. Such is the thought of modern democracy. Thus, the new economic life is possessed of new needs and new ideals. As a result, the schools of democracy are face to face with the huge problem of *universal* vocational education. There must be provided more and better training of all workers. The workers demand it as a right; and the political creed of the day designates it as an obligation of the state to the citizen.

In recent years every factor that has served to produce this new order has been accentuated by the activities and stimulation incident to the fighting of two world wars. One of the most striking outcomes of world-war experiences is the growing need for technical understanding at almost all vocational levels. Modern warfare is in a sense a conflict between groups of scientists, engineers, and technicians, and the concentrated efforts to meet the technical demands of modern war produce marvelous inventions, discoveries, and devices for civilian life after war. The unsettling effects of *universal* warfare produce fundamental social, economic, and political changes throughout the world, not less among victors than among the defeated. This invariably results in migrations of millions of persons and much shifting of occupations. A new civilization seems to have appeared on the earth. Its problems are, for the most part, utterly new problems; and society must therefore devise new ways of meeting its difficulties. It is this realization that is making possible and necessary the recasting of educational programs. They are being expanded, reorganized, and interpreted in new terms. Activities traditionally designated by other names are now classed as education. Groups that for centuries have been ignored by the schools are now the center of educational concern; and forms of training formerly left to other agencies are now held to be major responsibilities of the schools. Prominent among the new responsibilities of the educational program is that of universal vocational education.

Summary

The great changes produced by the industrial revolution are chiefly responsible for the most difficult social and economic problems of the present day. America was late in feeling the effects of the great forces set in motion by the application of steam power to production, but tremendous changes rapidly occurred when these forces finally became operative. The greatest economic growth began at about the middle of the nineteenth century, and since that time it has been continuous and rapid. Out of the great changes in economic life has come a new social order that has presented this age with a multitude of most difficult problems. One of these problems is the reorganization of education; and a vital aspect of such reorganization is the inclusion in the national scheme of a program of universal vocational education.

Every problem produced by the industrial revolution has been magnified and intensified by the fighting of two world wars, which have both stimulated scientific and technical achievement and simultaneously exhausted great reserves of natural resources. An already extremely complex industrial society has been made more complex by the great wars of the twentieth century. The resultant new demands upon education are so urgent and widespread that they cannot be ignored; and this is particularly true of the universal demand for vocational education.

QUESTIONS AND PROBLEMS

1. What factors in early American economic history caused the delay in industrial development?
2. Look up the census reports of population of the important cities of the United States in 1850 and in 1890. What economic and political forces produced the changes in population?
3. List ten social and economic problems that clearly are direct outgrowths of the industrial revolution.
4. How do you explain the ability of the United States to temporize so long with the problem of universal vocational education?
5. Show how the industrial revolution has affected the American concept of democracy.
6. What have been the effects of two world wars upon vocational education?
7. What factors in the present scheme of things, in the United States, seem to make for a growing demand for universal vocational education as a public responsibility?

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CHAPTER V

Vocational Education and the American Faith in the Theory of Progress

One of the most characteristic features of American national life throughout its history has been the uncritical and almost universal faith in the theory of progress. The whole political and economic structure of the nation is predicated upon this faith, yet few have ever attempted either a definition or a careful consideration of the basis of such a theory. Indeed, few who exhibit unbounded belief in the theory and unquestioning acceptance of its implications know that it has often been examined, and by some of the best minds of Western civilization, and has almost as often been rejected by them. In the closing years of the Victorian era it probably had its greatest vogue among speculative thinkers though its origin is of an earlier date, interestingly enough, about the time of the rise of the United States of America as an independent government.

Meaning of the Theory

In 1891 Mr. Balfour, the famous English scholar and statesman, presented an address, to which he gave the title "A Fragment on Progress." He began with these words: "There is no more interesting characteristic of ordinary social and political speculation than the settled belief that there exists a natural law or tendency governing human affairs by which, on the whole, and in the long run, the general progress of our race is ensured. I do not know that any very precise view is entertained as to the nature of this law or tendency, its mode of operation, or its probable limits; but it is understood to be established, or at least indicated, by the general course of History, and to be in harmony with modern developments of the doctrine of Evolution."[1] It would be difficult to find a more satisfactory definition of the theory of progress, which throughout the national existence has been accepted almost without a dissenting voice in the United States. It is held, by most, in the same manner as the belief that the world is round or that the earth revolves around the sun. It is a most remarkable theory, and its social consequences have been incalculable. Its origins are difficult explicitly to uncover, and its all but universal acceptance is difficult to explain.

The lack of scientific basis for such a doctrine has repeatedly been pointed out, and the failure both of history and of the theory of evolution to sustain it, more than as a theory involving opposite conclusions, has also often been urged.[2] Philosophers have sought the "laws of progress" without success,[3] and evolutionary scientists have adopted the most pessimistic beliefs;[4] but for more than one hundred and fifty years, "The belief in Progress, not as an ideal but as an indisputable fact, not as a task for humanity but as a law of Nature, has been the working faith of the West. . . ."[5] Marvin, in an essay on "The Idea of Progress," attributes its first specific mention to Lucretius in his accounts of "The Nature of Things," wherein he concludes his description of the beginnings and developments of the human arts with the expression, "these things, practice and the experience of the unresting mind have taught mankind gradually, as they have progressed from point to point." Marvin adds that this "is the first definition and use of the word progress in literature."[6] He also suggests: "Many of the earlier Greek thinkers, Xenophanes and Empedocles as well as Plato and Aristotle, had thought and spoken of a steady process in things including man, himself, from lower to higher forms. . . ."[7] Bury's more careful exploration of meanings and "atmospheres" of the thinkers of both the classical world and medieval Europe, however, seems to show clearly that all the expressions of early thought, which appear to indicate an appreciation of a probable continuous progress fall far short of such a conception; and he assigns the origin of the belief in its present form to European philosophers of the eighteenth century, particularly to those of the period of the French Revolution.[8] Since its birth in the minds of Western thinkers, this belief has never lacked powerful friends; and the events of history, especially of economic history, since the closing years of the eighteenth century have served to embed it firmly in the popular mind.

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[1] BALFOUR, ARTHUR JAMES, "A Fragment on Progress," Inaugural address delivered on his installation as Lord Rector, November, 1891.

[2] *Ibid.*

[3] BURY, J. B., "The Idea of Progress," Chaps. XV and XVI, Macmillan & Co., Ltd., London, 1920.

[4] *Ibid.*, pp. 344–345.

[5] INGE, W. R., "The Idea of Progress," the Romanes Lecture, p. 3, Oxford University Press, New York, 1920.

Modern Interpretation of the Theory

The modern idea of progress is much more than a tentative theory of philosophy; it is an established creed. Its soundness rarely is questioned. To most minds, progress is easily measurable. It is interpreted, in the main, in terms of *more* and *better*. Snedden includes as generally accepted factors in social progress "increase of population, rising standards of living, more extensive cooperation, growing interest in protection, and increase of the well-being of the individual, mastery of natural resources, and the like."[9] Marvin accepts as the meaning of progress the increase of knowledge, the increase of power, and the increase of "appreciation of the humanity of others."[10] Dewey says: "With increased culture and new mastery of nature, new desires, demands for new qualities of satisfaction, show themselves, for intelligence perceives new possibilities of action. This projection of new possibilities leads to search for new means of execution, and progress takes place; while the discovery of objects not already used leads to suggestion of new ends."[11] Thus has progress come to be analyzed for the purpose of planning for its guidance and control. For purposes of studying its relation to vocational education, however, what are commonly regarded as its immediate consequences and requirements are chiefly important.

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[6] MARVIN, F. S., "Progress and History," p. 10, Oxford University Press, New York, 1917.

[7] *Ibid.*, p. 8.

[8] BURY, *op. cit.*, Chaps. VI–IX.

If one accepts as criteria of progress the factors of *more* and *better*, which are commonly held as being certain and as being in continuous operation, what are the immediate effects of progress that concern vocational education? Clearly they are increased wants—*desire* for *more* and *better*. Such wants eventuate in a general social demand for more skillful service, more efficient organization of social endeavor, and more physical, intellectual, aesthetic, and ethical satisfactions. Translated in terms of vocations, activities, and objects, belief in an inevitable progress creates demands for more skillful mechanics, doctors, lawyers, teachers, typists, engineers, taxicab drivers, servants, etc.; for better books, plays, pictures, music, sermons, lectures, games, etc.; for more efficient steam engines, electric dynamos, automobiles, airplanes, elevators, phonographs, radios; for finer church houses, office buildings, clothes, food, furniture, and jewelry; more effective clubs, parties, unions, leagues, governments; more and better homes, schools, hospitals, and churches. One of the outstanding characteristics of modern civilization is this seemingly insatiable craving for *more* and *better*. In the face of such demands the time-honored, leisurely procedures of training for vocational life have proved utterly inadequate. Hence the increasing insistence, on every hand, for effective vocational education at all levels and for all kinds of occupation. Modern civilization must have skillful, intelligent, efficient servants. "Jacks-of-all-trades," the half-trained, the nearly efficient are finding it increasingly difficult to obtain a place in the economic scheme of life. Only intelligently conceived and efficiently maintained and directed agencies for universal vocational education can meet the requirements of the present stage of civilization.

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[9] SNEDDEN, DAVID, "Vocational Education," p. 32, The Macmillan Company, New York, 1920.

[10] MARVIN, *op. cit.*, p. 7. Inge in his lecture, "The Idea of Progress," quotes Disraeli as saying, "in his detached way . . . 'The European talks of progress because, by the aid of a few scientific discoveries, he has established a society which has mistaken comfort for civilization.'"

[11] DEWEY, JOHN, "Democracy and Education," p. 261, The Macmillan Company, New York, 1921.

Vocational Education's Contribution

Vocational education has another function to perform with reference to progress. Well-trained, intelligent workers inevitably hit upon new and better ways of doing work; and they discover laws and principles that make possible greater advances in knowledge and in power over forces and material resources. Hence, *further* "progress" results, and vocational education becomes at once both a consequence and a cause of progress. The history of racial development seems to be the history of the alternating forces of *doing* and *wanting*. Man *does* to satisfy *wants*, thus in turn creating new wants; and the process seems endless. Apparently, then, the contemporary demand for more and better vocational education is but a modern aspect of social evolution, and in the interest of continued progress the demand must be met.

Much the same may, of course, be said of all phases of organized education. This is a day of "conscious evolution," in which man proposes deliberately to promote development in predetermined directions. This he is attempting with astonishing self-assurance and small tolerance for doubts concerning his ability to lay down the lines of advance. Since this age is chiefly conscious of material progress, the emphasis is being placed largely upon the guaranteeing of progress in the practical arts. Hence, again, the emphasis on vocational education at this time. The insistent call is for the efficient training of the people who keep the wheels turning, in order that the world may continue to possess more and better things with which to satisfy its desires.

Implications of the Theory

The chief difference between the attitude of the modern age toward vocational education and that of earlier periods of history seems to be that whereas formerly it was provided merely to maintain the ancient arts necessary for existence, today it is demanded as a necessary factor in social progress. The difference is most significant for vocational education. A leisurely apprenticeship was fully adequate for the needs of a civilization that had not discovered the idea of progress, but the new day must have an organized scheme of vocational training that is characterized by speed, accuracy of results, and efficiency of control. And since, in America, progress is invariably identified with democracy, vocational education must also be democratic. It must provide equality of opportunity to all. Hence the contemporary program calls for many types of schools and classes, cooperative schemes, correspondence courses, apprentice programs, and any other device or means of affording all classes and types of workers a chance for adequate training for vocational life. If democracy means progress, the educational program must be democratic, and vocational education must therefore have a large place.

Two amazingly savage and destructive world wars in a single generation, fought with an utter disregard of all "laws of chivalry" and with weapons the most terrible the human mind could conceive, have raised doubts in many minds regarding the soundness of the theory of inevitable progress. Many have wondered whether man has made any real and fundamental progress beyond the savage except in his ability to destroy and cause suffering. This doubt has brought to the fore the problem of the lag between progress in science, invention, and skill in production and progress in the political, social, and cultural development of the "civilized" peoples. Partly as a result of this growing anxiety concerning the lack of uniform progress in all the major aspects of life, a growing demand for more and better services among political and social agencies has arisen. Hence, there has come to exist a strong demand for more and better trained nurses, teachers, social-service workers, scout leaders, playground directors, vocational counselors, religious workers, personnel managers, rehabilitation counselors, and many other workers engaged in promoting the intellectual, physical, moral, and spiritual welfare of people. This in turn has resulted in a demand for better vocational education for those who serve as specialists in human welfare. The growing interest in such occupations is one of the most striking phenomena of modern times, and a great enlargement in facilities for the vocational training of all types of social occupations promises to be a major concern of vocational education for many years to come.

It is interesting to observe how both the general acceptance of the theory of progress and a growing doubt of its validity have contributed to the growth of vocational education. This paradox perhaps may be explained by the fact that there is no great decline in the belief in progress but that man is coming increasingly to understand that it is inevitable only on condition that he make an intelligent and effective effort to promote it. Neither history nor the theory of evolution clearly teach an inevitable progress in spite of what man does. Both seem to show clearly that progress is conditioned in all ages by the wisdom, character, energy, and skill of man. This ~~being true, it follows that~~ to ensure ~~progress~~ vocational education must of ~~necessity~~ play an important role and the quality of vocational education will affect the ~~speed and~~ certainty of progress.

Summary

For more than a century and a half, the Western world has been obsessed with the idea ~~of progress~~. It is a new notion among men, which was quite out of the reach of both the ancient and the medieval European. Since its acceptance by the masses of Western men, it has exercised a most remarkable influence over the course of their social history. Insofar as vocational education is concerned, it has caused a new emphasis to be placed upon an effective training for occupational participation and has brought about an unprecedented development of means to that end. Progress seemingly has resulted in new needs and wants, which make necessary ~~efficient methods of producing~~ the service and things required to satisfy the wants. To ensure such methods of production, more and better vocational education is required. As this is provided, it makes possible the invention of yet more desirable things and still better service, which, in turn, create other wants. ~~Thus vocational education both results from material progress and promotes it~~. As a result of a growing doubt about the inevitability of progress, after two world wars, an increasing interest in vocations designed to promote progress in social, political, and spiritual development has become manifest. This interest has created a growing demand for vocational education for the social occupations.

QUESTIONS AND PROBLEMS

1. What character traits and environmental factors probably account for the fact that the American people have wholeheartedly accepted the theory of progress?
2. What would be the probable effect upon education of a rejection of the theory of progress?

3. In what respects is it likely that vocational education contributes to other than the material aspects of progress?
4. Assuming that the idea of progress was developed during the early part of the eighteenth century, how would you use that fact to explain the economic and social life of the Western world before and after that time?
5. Show clearly the effects of the theory of progress on educational methods in general, and on the methods of vocational education.

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CHAPTER VI

Vocational Education and Democracy

The Nature and Meaning of Democracy

Political philosophers repeatedly have pointed out the fallacy of accounting for the national characteristics, institutions, and points of view of a people solely on the ground of their form of government. The fact that America is a democracy in no wise accounts for everything American. Democracy itself is not a fixed condition of social organization easily identified, classified, and defined. Indeed, men have never fully agreed on a definition of democracy. Political scientists think of it as a form of government; and idealists not of the profession of politics think of it as a spiritual community bound together in a fellowship or fraternity of ideals and aspirations. Tocqueville made American democracy synonymous with equality; but Bryce, writing sixty years later, showed that neither social nor material equality existed in the United States. Dewey, in an essay written in 1888, said: "To say that democracy is a form of government is like saying that home is a more or less geometrical arrangement of bricks and mortar; that the church is a building with pews, pulpit and spire. It is true; they certainly are so much. But it is false; they are so infinitely more. Democracy, like any other polity, has been finely termed the memory of a historic past, the consciousness of a living present, the ideal of the coming future. Democracy, in a word, is a social, that is to say, an ethical conception, and upon its ethical significance is based its significance as governmental. Democracy is a form of government only because it is a form of moral and spiritual association."[1] And in another place he says: "Democracy and the one, the ultimate ethical ideal of humanity are, to my mind, synonyms. The idea of democracy, the ideas of liberty, equality, and fraternity, represent a society in which the distinction between the spiritual and the secular has ceased, and as in Greek theory, as in the Christian theory of the Kingdom of God, the church and the state, the divine and the human organization of society are one."[2] Thus it is held that democracy is a form of government; a type of social and economic grouping with characteristic institutions, customs, and attitudes; and a spiritual commonwealth of ideals expressing itself through social, economic, and political forms and institutions. However conceived, democracy is a living, and therefore changing, polity. Democracy, as it expressed itself in the common life of the American people of the last decade of the eighteenth century, is very different at many points from the democracy of the last half of the nineteenth century. Today a still different expression of the idea obtains.

Democracy as Action

Great minds of every generation have tried to interpret the American democracy in terms of action and national purposes that express the finest ideals of the people. The word "democracy" has been used as a shibboleth to call the people in times of stress to higher levels of thinking and endeavor. Lincoln so used it, and Wilson made it the keynote of all his appeals to the nation during the anxious years of the First World War. In a passage in his address on Abraham Lincoln he said: "And the hopes of mankind cannot be kept alive by words merely, by constitutions and doctrines of right and codes of liberty. The object of democracy is to transmute these into the life and action of society, the self-denial and sacrifice of heroic men and women willing to make their lives an embodiment of right and service and enlightened purpose. The commands of democracy are as imperative as its privileges and opportunities are wide and generous. . . ."[8] Men increasingly have come to think of democracy as a principle underlying all aspects of community life, and not only life as it relates to civil government.

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[1] Dewey, John, "The Ethics of Democracy," p. 18, University of Michigan Philosophical Papers, Second Series, No. 1, Andrews and Company, Ann Arbor, 1888.

[2] *Ibid.*, p. 28.

Basic Concepts of Democracy

In 1940 the Educational Policies Commission, in a remarkably penetrating and thought-provoking summary of five years of "exploring the relationships between American democracy and the American school," says of democracy: "Democracy is more than institutions and ways of life. It is a great social faith which, in response to the yearnings and struggles of many races and peoples, has been developing through the centuries. It is a bold and positive faith which, now as in other times, calls men to battle for the defense and realization of noble and lofty conceptions of the nature and destiny of men. It is the finest of all the social faiths that mankind has fashioned and followed during the thousands of years of human history.

"It will conquer because it is the only social faith that can bring justice and mercy to all men.

"The articles of the democratic faith have never been codified. They are recorded in the carefully preserved sayings and writings of the great prophets and seers of mankind, even as they may be found in the fugitive utterances and letters of ordinary men and women, in the songs and lamentations of the oppressed. They are embodied in customs and institutions—in the public school, the Bill of Rights, courts of justice, representative legislatures, systems of law, and ethical codes. Although the boundaries of this faith are elastic and changing, the following articles, related and interwoven, must be included:

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[8] WILSON, WOODROW, "Address on Abraham Lincoln," delivered Sept. 4, 1916, "Democracy Today," Christian Gauss (ed.), Scott, Foresman & Company, Chicago, 1917.

"First, the individual human being is of surpassing worth.

"Second, the earth and human culture belong to all men.

"Third, men can and should rule themselves.

"Fourth, the human mind can be trusted and should be set free.

"Fifth, the method of peace is superior to that of war.

"Sixth, racial, cultural, and political minorities should be tolerated, respected, and valued."[4]

Democracy as Equality of Opportunity

This concept has been slow in forming in the common mind of the people, and still slower in finding expression in the social and economic institutions of the nation, other than governmental. By constant repetition of the theme, however, this principle of democracy is gradually working its way down into the thought of the people as it relates to the common life. A practical working definition of democracy as the modern mind seems increasingly to conceive it and as enlightened social effort suggests it, would be approximately this: "Democracy is that form of self-governing society that guarantees to each of its members equality of opportunity to grow and achieve to the extent of his ability; and to participate in the general cultural achievement to the same extent." This does not mean that democracy guarantees growth and achievement, but only equality of opportunity to grow and achieve. Such opportunities are notoriously unequal and to the extent to which inequities exist society is undemocratic. This definition involves ensuring opportunity to grow physically, mentally, spiritually, educationally, and economically. It does not call for identical opportunities for all citizens but *equal* opportunities for all to grow and achieve. It implies the removal by society of obstacles over which the individual does not and cannot have control. Such a definition includes all that was formerly meant by democracy but implies much more. To guarantee equality of opportunity to grow suggests social compulsion in matters of health, of physical, mental, and moral protection. It further suggests protection from unfair competitions and from exploitations in economic relationships. To guarantee equality of opportunity to achieve implies the provision of universal cultural and vocational education, together with protection from unfair handicaps arising either from one's environment or from other individuals. To assure participation in the common cultural achievement to the extent of one's ability requires the development of the powers of appreciation and the understanding of the processes of modern civilization. Altogether, the definition implies a large degree of social supervision of the individual's life, to the end that his freedom to grow may not be infringed.

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[4] Educational Policies Commission, "The Education of Free Men in American Democracy," pp. 32–33, The National Education Association and the American Association of School Administrators, Washington, D. C., 1940.

Factors Affecting Democracy

Many factors, doubtless, have played a part in expanding and making more concrete the democratic theory upon which the American government is based. Not the least among them has been the changing character of the economic life of the nation. It is not strange that a nation of four million people scattered over a vast territory in towns, small settlements, and farms, among whom neither great wealth nor dire poverty existed, should have a somewhat different manner of interpreting democracy from that same nation after it had become a great industrial country of more than one hundred million people, crowded into great industrial cities and confronted with all the social problems of the factory era. Such changes in economic conditions necessitate new applications of the governmental principles and social theories that control the national life. In America the trend clearly has been to expand the meaning and expression of democracy into the realm of ordinary social and economic relationships. The great city has always been the most favorable soil in which to propagate democratic ideas. The open country has fostered the spirit of independence and individualism rather than democracy. It has, almost without exception, been the stronghold of conservatism and aristocratic systems of government. The city has been the center of unrest, revolt, and experiment. Inequalities, injustice, oppression, need, and suffering have always been poignantly apparent where men have been crowded together in great numbers. In the cities they quickly express their discontent, and as readily form themselves in groups to remedy undesirable conditions. Thus very early the city became concerned with economic and social democracy as well as with political democracy.

The industrial revolution, which produced the great modern city, furnished it with many serious problems. Among the greatest of these is inequality of opportunities. The utter dependence upon one another of the citizens of such a highly organized, minutely specialized community as the industrial city makes oppression easy and equalization of opportunity a very complex thing. But the consciousness of this problem serves to make people insistent on their rights and alert to guard their privileges. Out of this situation has come the modern interest in extending the functions of government to the details of the daily life of the people. Hence, government today is concerned with the health, living conditions, working facilities, education, and morals of its citizens, as well as with its traditional functions.

Education and Democracy

Education has changed continuously as the economic and social organization of the nation has developed. The function of education today is greatly enlarged beyond that of the early years of the republic. Modern life requires that all workers be trained for their work. To train some and not to train others creates inequalities that violate the spirit of democracy. To give all the same training only aggravates original inequalities. The modern concept of democracy does not call for equality of ability but insists on equality of opportunity. Hence, every individual must be afforded the privilege of preparing himself to the extent of his ability to play his proper part in the national scheme of life. This obviously involves universal vocational education as one of the conditions of genuine democracy. Modern education must therefore include provisions for the vocational training of all the people.

Only in recent years has there been any large acceptance of this principle. Traditionally, society has cheerfully provided vocational education for a chosen few who were thought of as social leaders. In the early years of American society, when competition was not keen, wants were simple, and few people were economically dependent, such a program was tolerable if not adequate. In an industrial society, where the struggle for existence is tense, where economic independence is almost unknown, it is not enough merely to train vocationally the "leaders." Gradually facilities have been provided for the training of workers in most of the "higher callings," whereas formerly vocational education was available in the schools only for ministers, doctors, and lawyers. It is only when efforts are made to provide for the training, by public agencies, of mechanics, clerks, and workers in the "less exalted" occupations that serious opposition arises. The present-day problem of vocational education is, in the main, that of the extension downward of facilities for vocational education. As Snedden said: "The issues of vocational education are far too important to permit of their being damned by the vague word 'undemocratic.' "[6] That is a charge frequently met. It is said to be undemocratic to teach a boy how to be a carpenter because in so doing he may be kept from being a statesman. It is more democratic, it is sometimes said, to give him a broad education and leave him to his own devices as far as his vocation is concerned. It seems strange that this should be true of the manual worker but not true of the boy who would be a professional man. If democracy implies equality of opportunity to grow and achieve to the extent of one's ability, the workers in the less exalted vocations should be as thoroughly trained for success, at their respective levels, as those of higher occupational stations. Doubtless much of the opposition to a comprehensive program of vocational education is due to the failure to realize that thorough, directed training is quite as important at the lower levels as at the higher. The fact that the needed training is of a different order, and may be acquired in a shorter time, makes it no less necessary than that required by the professions. The modern concept of democracy seems to require adequate vocational education for all workers, whatever their rank in social and economic life.

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[6] Snedden, David, "Vocational Education," p. 61, The Macmillan Company, New York, 1920.

Democracy and Vocational Education

Merely to provide vocational education for all grades of workers does not ensure a democratic program of training for occupational life. Such education must be fitted to the needs of those for whom it is provided. These needs vary greatly. There are great variations in native ability, educational background, and economic status. For many, prolonged school training, presupposing a thorough general education, is both possible and desirable. For others, short, intensive, highly specialized offerings are the only feasible means of meeting their needs. For many, programs of training that serve to supplement and give meaning to the daily experiences of work in an occupation are the most effective schemes of vocational education. In the case of certain vocations and certain individuals, preparatory training, immediately followed by occupational experience, suffices; but in many instances, information and training are of value only when they are given at the moment of need. Much vocational education is needed by youth either while engaged in acquiring a general education or immediately after finishing the period of academic schooling. A need of equal urgency is for upgrading or promotional training for the mature worker. Some of the work of vocational education should be maintained by the public schools and colleges, some by privately endowed institutions, business and industrial corporations, and organized groups of workers. Various needs are severally served by correspondence schools, trade and business schools, public full-time schools, public part-time schools, evening schools, colleges, corporation schools, apprenticeship, and private study. No single scheme of vocational education could be democratic. To be such, all grades and classes of workers and occupations must be included in the national program; hence, there must be many kinds of schools, classes, schemes, and methods. Vocational education in a democracy is an extremely complex undertaking. A program of education that omits it, or ignores its complex character, cannot be genuinely democratic. Equality of opportunity to grow and achieve to the extent of one's ability inevitably makes necessary a comprehensive program of vocational education.

Summary

The American concept of democracy has changed during the period of the national history. With the changes in economic and social life has come a larger view of its implications. It has grown from a naïve ideal of liberty, equality, and fraternity, pertaining chiefly to government, to a concrete program of social and economic development. Many factors have contributed to the evolution of the idea of democracy, but the industrial revolution, bringing the modern city into being, has been one of the most potent influences in the process. Democracy now demands equality of opportunity in those aspects of life where unfair privilege and social inequality traditionally have been tolerated and perpetuated. In the effort to extend democracy into these areas, it has become clear that universal vocational training must be provided. To meet this requirement many types of vocational education are necessary to meet the needs of many different groups and individuals.

QUESTIONS AND PROBLEMS

1. Give three illustrations from ancient history of the influences of a nation's political philosophy upon its educational procedures.
2. Show wherein the French, German, and English schools, throughout history, have reflected the governmental theories upon which those nations are founded.
3. As the idea of democracy has developed in the United States, what corresponding changes have occurred in the character of the schools?
4. Should a democracy give as much attention to the education and vocational training of those in the less exalted callings as to those in the higher positions of society? Why?
5. From the standpoint of efficiency and thoroughness in all sorts of education, what form of government is probably the most desirable? Why?

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CHAPTER VII

The Relation of Vocational Education to Cultural Education

The Conflict of Opinions

Since the beginning of organized efforts in the United States to promote types of vocational education traditionally not offered in the schools, there has been much controversy among educators over the desirability of providing such education. Throughout the history of public education there has seemed to be prevalent among educators an idea that there is an inherent conflict between culture and the "practical" activities of life, between "learning and labor," between "making a life" and "making a living." The rapid growth of vocational education during recent years, however, has brought about important adjustments in the school program that make it possible now to study the problem of vocational education more calmly, and with much less prejudice on both sides, than formerly. In the main, the conflict grew out of misunderstandings by each group of the meanings and purposes of the other's efforts, and out of a misconception of the necessary relationship, in a democracy, of the two major aspects of all education, the vocational and the cultural. A striking illustration of such attitudes is the statement in an address by Nicholas Murray Butler, wherein he said: "The whole scheme of vocational training is not only a sham, and a costly sham, but an immense injury both to the individual and to the community, if it is permitted to find its way into the six elementary school years or, in any but the most restricted fashion, into the six secondary school years. The child who while still an infant is seized upon and prepared for some specific calling, is thereafter a prisoner without possibility of becoming a free man."[1] It would be difficult to find so much as a single sentence in the whole range of writing and speaking of all the responsible advocates of vocational education that even remotely suggests the desire to "seize upon an infant" and prepare him for a specific calling, or to permit specific vocational education to find its way into the first six years of the schools. Such statements as President Butler's illustrate the general lack of careful study of the real meaning of the vocational education movement of the present century.

Vocational-education leaders have not advocated substituting vocational training for general training, or the curtailing of general education, but only the provision of vocational training in *addition* to general education. They have maintained that the meager general education acquired by the great mass of the people before the work life begins does not prepare them for that life any more than a general, academic college training prepares a physician for his work. They merely urge that the bookkeeper, the machinist, the homemaker be afforded an equal chance to prepare for their work life with that afforded the preacher, the doctor, and the lawyer. It seems strange that a philosophy of education derived from the slave-owning classes of ancient Greece should still be advanced as adequate for modern America, and that the needs of the overwhelming majority of the boys and girls, who do not enter the "learned professions," should be entirely neglected by the schools in the name of the protection of "culture," while the most elaborate provision is made for the very few who do enter those occupations. That such discrimination still exists can be attributed only to prejudice, or to a failure carefully to examine both phases of the necessary education of the good citizen of a democracy. Alexander Stoddard, in a notable address on "The Vocational Emphasis in Education," said on this point: "The vocational education program of our schools should be pushed upward to the post-high school period as far as possible in accordance with the economies of employment then prevailing. The curriculum should be expanded to cover the whole range of teachable vocational areas, from the highly complicated to the very simple. Long and short courses, both unit and sequential, would be involved. Vocational education should be regarded as the common right of all the people. We should not think of general education for some types of our people and vocational education for other types. Rather we should think of *all* our people having equal opportunities, according to their abilities to acquire both the common integrating facts, knowledge, and skills essential for effective living and the facts, knowledge, and skills directly related to productive employment."[2]

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[1] Butler, Nicholas Murray, The Closing Door, *Educational Review,* p. 422, December, 1921.

The Justification of a Certain Dualism

When one specifically attempts to distinguish between vocational and cultural education, one immediately faces a difficulty common to all the generally accepted dualisms in educational thought, namely, that of locating an actual "wall of partition" between the two things considered. Are theory and practice two distinct things or merely different aspects of a single thing? The same question arises with reference to many other familiar pairs, such as heredity and environment, mind and matter, character and conduct, doing and knowing. At what point does cultural education end and vocational education begin? Can one be educated at one time exclusively for leisure and at another exclusively for productive work? Is there no culture to be had from the daily experience of making a livelihood, and no vocational proficiency from the pursuit of the "intellectual disciplines"? It is not necessary to think very far into such questions to conclude that the words denoting the dualisms in reality name only two sides of the same thing. Hence it is impossible successfully to maintain that training in the skills, attitudes, and technical knowledge of a vocation does not increase culture, or that a study of history, language, philosophy, and science does not improve one's practice of a vocation. In a very real sense, it is true that one cannot sharply divide one's life into distinct compartments because each phase of consciousness reciprocally affects every other. Shall we then reject all such terms as "cultural education," "vocational education," and "physical education," and speak and think only of *education?* In the interest of administrative efficiency it seems necessary arbitrarily to differentiate among the various aspects of the educational program. For the sake of organizing the work of education effectively, certain subjects, activities, and purposes are designated vocational and others cultural.

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[2] STODDARD, ALEXANDER J., The Vocational Emphasis in Education, "1945 Convention Book," pp. 6–9, The Illinois Vocational Association, 1945.

This seems greatly to simplify the task, and if, in the philosophy of education of the nation and in the higher administrative centers of the school system, the real unity of the process is appreciated and maintained, no real injury is done, and the business of education is greatly facilitated. Thus it appears profitable to set out clearly the characteristics that distinguish the two major aspects of education, to set up specific purposes, materials, and methods for each group of procedures designated respectively as vocational education and cultural education, and to suggest their relationship as phases of one's preparation for life.

Cultural or General Education

Historically the schools have been primarily concerned with cultural education. With the exception of preparation for the traditional three learned professions, it was not formerly considered a function of the schools to prepare specifically for the activities of the vocations. Hence the emphasis was placed upon those studies and activities thought to "discipline the mind" and to "furnish the mind" with the particular facts, attitudes, and accomplishments that were approved by the intellectual leadership of the times. The modern conception of cultural education held by many educators today is not greatly different from that of the later years of the Renaissance, when this type of schooling became firmly established. There are, however, indications of a liberalizing and broadening of the accepted meaning of such education in recent years. Its purpose now seems to be to develop certain desirable intellectual abilities and habits, to produce appreciations of the finer aspects of life, particularly as they find expression in the fine arts and in books, and to bring about a large understanding of life. This definition is, of course, variously interpreted. Some interpret it very narrowly, restricting abilities, habits, knowledge, and appreciations to a conventional, exclusive area; others expand it to include all that is valuable in enabling one to live the "abundant life." The efforts of the schools to meet the needs of youth for culture have been hindered at every turn by the dead hand of the past. Tradition has prescribed certain studies, and even certain books and facts, as the exclusive instruments of the business of acquiring culture. The multiform character of modern life, however, is rapidly breaking the hold of the past; and it is becoming increasingly easy for the schools to lead the young toward a culture that accepts all beauty and knowledge of value, wherever found, as being within its province. As the men and women who are the products of the new age come more and more into positions of educational leadership, cultural education becomes increasingly rich and comprehensive. The cultured person of today finds it necessary to have a genuine appreciation of a very large number of factors in his physical and social environment that were not formerly included in the scope of culture. Increasingly, educators are finding in the economic environment of youth materials that can be used to develop culture. If culture is to mean, among other things, an understanding of contemporary life, this must be done. There are many who still are afraid to venture beyond the time-approved materials, but the demands of present-day life make such timidity more hazardous than the venture. Dewey clearly states the case in saying: "In short, our culture must be consonant with realistic science and with machine industry instead of a refuge from them. And while there is no guaranty that an education which uses science and employs the controlled processes of industry as a regular part of its equipment will succeed, there is every assurance that an educational practice which sets science and industry in opposition to its ideal of culture will fail."[8] This broadening of the meaning of culture is a great gain, and gives to the work of education a significance and value it has not had.

The function of general education has expanded in still another direction. It prepares for intelligent consumption, or utilization, in an age when men have more wants than human life has ever experienced and greater facilities for the satisfaction of those wants. In a simpler form of society, wants were few and extended but a short distance beyond the needs of food, clothing, shelter, and simple amusements. In this day of marvelous inventions, of freedom from a grinding drudgery, of leisure, and of unprecedented wealth, human wants are many; and the ability to participate in the pleasure-giving fruits of an age of science is possessed, in varying degree, by every level of society. No such conditions of life have ever existed in the past. Hence, today, in order to participate in the products of civilization, which of right belong to every man, one must know something about a great many things. This he must know, also, in order merely to live in harmony with his surroundings. Ignorance today means more than deprivation of the pleasures enjoyed by the educated; it means inability to make even the simplest adjustments to environmental conditions. Everyone must know enough chemistry in these days, at least, to avoid an unintentional suicide from inhaling the gas exhaust from an automobile engine. To be unable to read danger signs and warnings designed to protect life and health is to be unable to enjoy even a reasonable degree of safety in this industrial age. The American pioneer was under no such necessity in order to survive; empirical knowledge was fully adequate for his needs. The mere maintenance of physical life today requires extensive knowledge.

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[8] DEWEY, JOHN, American Education and Culture, *The New Republic*, vol. VII, No. 87, p. 216, July 1, 1916.

General education has also the obligation of preparing youth for the responsibilities and duties of local, state, and national government. If it fails at this point, the American experiment in democracy must also fail. In a country governed by its citizens directly, through popular opinion expressed in many unofficial ways and through the official ballot at regular and frequent intervals, popular ignorance is too dangerous to be tolerated. Hence, general, or cultural, education carries the great responsibility of leading the young to an appreciation of the many problems of civic and social life that have to be dealt with continuously by the citizens of a democratic country. Thus, that aspect of education known as cultural or general has, in modern life, the heavy responsibility of acquainting youth with a multitude of facts and of leading to an extensive range of appreciations, in order that the vast array of consumable goods and services may be utilized intelligently, that life may be lived safely, effectively, and happily, and that government may be maintained justly and efficiently. The traditional function of cultural education, then, has been tremendously enlarged.

Vocational Education

What part does vocational education play in the education of an individual and in the program of organized education? Man must not only know more and utilize more than ever in the past, but he must also produce more. As wants increase, production must increase. As machines, specialization, and standardization result in expanding the range, quantity, and quality of products available to all, the wants of all increase, placing new demands upon production. A veritable spiral, constantly enlarging—more production, more wants; more wants, more production—is operating; and man is at once the beneficiary and the victim of the system. He must, today, work rapidly and efficiently under the strain of competition with his fellow workers and under the pressure of his own desires for more of the fruits of labor. Many, of course, cannot survive the strains of modern economic life, when it is lived according to the rules laid down by the conservative, moral forces of society, and attempt to "cut the corners" by living as criminals; or they go down under the diseases common to extreme poverty and neglect. Increasingly it is clear that, to meet the requirements of contemporary economic life successfully at any level, one must be trained to do productive work efficiently. Also, it is becoming clear that as little time as possible must be consumed in training, because the necessity for early and continuous production is urgent. To enable the individual to meet the demands of economic life for efficient production is the function of vocational education. As has been suggested, this is a day of many activities not previously engaged in by man, and is, moreover, a day of specialization. As occupations are multiplied, they are narrowed in scope; and the vocational work of an individual is correspondingly narrower in range. Both the increase in knowledge and the multiplication of wants are responsible for this change. The increase in knowledge has multiplied wants that have to do with quality as well as quantity. People today not only want *more*, but they want *better*.

This means that a modern specialized worker, in any field, must know *much* about a *few* vocational activities. Hence, specialization means intensive, expert knowledge and skill in a narrow area. Thus contemporary life demands not only broader general education than ever before, but more intensive vocational education. To say that the range of vocational knowledge and skill is greatly restricted in no wise means that it is small in amount; it merely goes deeper, and is of finer quality. Increasingly, vocational training must be had under tuition. The time-honored process of picking up in a leisurely manner the facts, skills, and attitudes of a vocation is now adequate in a constantly decreasing number of occupations. An educational program that meets the requirements of modern life must include an effective, intensive training in some specific vocational field.

Sequential Relationship of Vocational and Cultural Education

A question often asked by students of education is, "When, in the life of an individual, should vocational education begin?" The assumption back of the question seems to be that at some particular birthday, or graduation day, vocational education should begin. A common variation of the question is, "Do you think vocational education should begin at the end of the eighth grade, or at the close of the second year of high school?" There can be no right answer covering all cases. In fact, a different answer must be given for each individual boy or girl; and the kind of vocation for which preparation is to be made also is a determining factor. Another step back of the question there is a basic consideration, usually ignored: whether vocational education is to be regarded as a "capstone" to general education, or as a "vestibule" to occupational life. The reason for this seems clear, for the great majority of youth. General education, for most, ends early—too early for immediate entrance on a permanent occupation. Between the school-leaving day and the day on which a youth realizes that a certain vocation is probably to be his permanent occupation, there is a period of drifting and uncertainty, which often lasts for several years. In such cases, immediate entry into an intensive vocational training on the day of leaving school would be useless except in a possible few instances where it would accidentally serve as wise guidance and direction. To defer vocational education until a choice of occupation is made appears to be the reasonable procedure. This calls for the "vestibule" conception of vocational education. Thus one can well answer the questions presented above by saying: "At no particular age, or school grade, should vocational education necessarily begin, but at that point in life when the individual has decided what occupation he wants to enter, and is ready to begin the effort to find a place in it."

This answer, however, does not necessarily imply that cultural education must end before vocational education begins. Experience has shown that in preparing for certain of the professions, and other occupations requiring a relatively large amount of general education, it is possible and desirable during the early stages of vocational preparation to carry on general and vocational training simultaneously. In cooperative part-time schemes of vocational education, also, this parallel pursuit of the two phases of education is practiced. Whether such is the case or not, there is little to be gained by offering opportunity for vocational education before the student has definitely turned his steps toward a chosen occupation.

To answer the other thought expressed in the question, "At what age should vocational education begin?" it is necessary to know the background, the outlook, and the probable degree of advancement of an individual. For one probably destined for a skilled mechanical trade, the specific vocational training needed should begin earlier than that of one probably destined for one of the learned professions. To say arbitrarily that it is injurious to begin such training before any certain age is unjustifiable except that, by common consent in the United States, it is held that one should devote all one's time to mastering the tools of general education before the age of fourteen years; and there is a strong tendency to extend the minimum period of general education to the age of sixteen. The most satisfactory answer to the question seems to be that the person should receive vocational education immediately before engaging in a chosen vocation.

Summary

Since vocational education and cultural education are merely names of two necessary aspects of the education of every normal person, there is no justification for conflict between the two. Everyone must be prepared for modern living, both culturally and vocationally, and it is impossible sharply to define the territory of either phase of education. For administrative purposes, however, it is convenient to consider these two aspects of education separately. One is broad, general, and concerned chiefly with appreciations and interpretations of life in all its varied expressions; the other is narrow, specific, and concerned with the development of definite vocational skills, attitudes, and technical knowledge. Since each person must have both vocational and general, or cultural, education, and since a democratic society cannot afford to encourage social distinctions, it seems best to provide both phases of education under a unified school control. The basic differences in procedure and materials must be recognized, however, and there must be real cooperation among the educational agencies concerned in all public education, if an effective, democratic school program is to be developed. The character of vocational education and its function in the life of an individual suggest that the most effective time in life for him to begin it is immediately before entering a vocation. In some cases, only enough training to begin the vocation is advisable, the more complete preparation being given on a part-time basis as it is needed. The entire problem of rightly relating the two necessary aspects of preparation for life in a scheme of education depends for solution upon a sympathetic understanding, by representatives of each phase of the problem, of the character and function of the other; and upon a broad comprehension by both of the whole problem of education.

QUESTIONS AND PROBLEMS

1. If cultural education were reorganized fully enough to utilize the educative materials of vocational life, would there be any further need for specific vocational education? Explain your answer.
2. Can vocational education as a separate undertaking from cultural education be justified on any other grounds than administrative expediency? Explain your answer.
3. What, seemingly, has been the effect upon cultural education of the prevalent notion that its chief value is to increase earning power?
4. How would you justify the proposition that both cultural and vocational education are greatly strengthened by full recognition of their distinctive aims and avoidance of confusion of objectives in the students' minds?
5. Explain the probable meaning of Dewey's statement that "there is every assurance that an educational practice which sets science and industry in opposition to its ideal of culture will fail."
6. List the items of knowledge and the skills an electrician must possess merely to avoid serious injury or death. Which of the items belong to general education and which to vocational education?

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CHAPTER VIII

Method in Vocational Education

The Threefold Aspect of Vocational Education

The successful practice of any occupation, other than the simplest unskilled types of work, involves skill, related technical knowledge, and appropriate occupational attitudes. Obviously, these aspects of vocational practice do not exhibit themselves one at a time but are inseparable parts of the whole of occupational activity. Nevertheless, in the teaching of a vocation it becomes convenient to consider each aspect separately, in order to ensure effective instruction. It is doubtless true that while acquiring the skills of a given vocation, one will learn certain bits of related technical knowledge, and will almost unconsciously begin to assume points of view that are conducive to desirable attitudes for practicing that vocation. Yet fully to meet the needs of a vocational student, it appears necessary for the teacher to give special attention first to one and then to another of the three aspects of a vocation. Experience seems to indicate that a somewhat different teaching situation is involved in each instance. The acquisition of skills presents a different psychological difficulty from the learning of technical facts; and the assumption of appropriate occupational attitudes requires still another set of factors. Hence, in a study of methods effective in the teaching of the vocations, it is desirable to examine separately the steps involved in efficient instruction in each phase of vocational teaching.

Teaching Skills

The development of skill is one of the most important responsibilities of the vocational teacher. Far too often teachers are negligent with reference to a constant insistence upon high standards of skill. As important as technical knowledge and desirable occupational attitudes are, they can never compensate for the lack of skill. It is therefore necessary for the vocational teacher to consider carefully the nature of skill and the psychological conditions requisite for the building of needed occupational skills. Skill has been defined as "a thoroughly established habit of doing things in the most economical way."[1] This is a useful working definition, but a further factor must be considered. Pear has defined skill as "the integration of well-adjusted performances, adapted under varying situations to the attainment of a desired result."[2] Fairchild, in commenting on the definition of skill, pointed out that "while it consists primarily of habits, it is more than merely a congeries of habits. The habits, at least, must be of the kind to ensure adaptation."[3] The same author, writing with reference to the importance of skill, said: ". . . where skill is given play it becomes in the workman developing it much the greatest source of his satisfaction." Later in her study she wrote that "failure to utilize men's capacity for skill development is like failure to utilize the capacity of a waterfall flowing past one's factory doors, or of the coal in one's bins, to its fullest extent. It is a waste of a natural utility directly at hand, whose use would be advantageous to everyone concerned."[4] The development of skill is a difficult phase of vocational teaching and requires the utmost attention to the details of correct method on the part of the teacher.

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[1] Selvidge, R. W., Skill, *Industrial Education Magazine,* vol. XXX, No. 5, November, 1928.

[2] Pear, T. H., The Nature of Skill, *Journal of the National Institute of Industrial Psychology,* vol. 4, No. 4, October, 1928.

[3] Fairchild, Mildred, Skill and Specialization—A Study in the Metal Trades, *The Personnel Journal,* vol. IX, Nos. 1 and 2, June and August, 1930.

Ordinarily, the acquisition of skills having the complexity of most vocational skills involves three factors: imitation, repetition, and occupational participation. It is fairly easy to learn an abstract fact, or to adopt a series of related ideas, merely from being told the fact or the series of ideas. But to learn to perform an act involving a more or less complex group of motor adjustments usually requires something more than verbal directions. This is due, in part, to the extreme difficulty of describing consecutive movements so as to create a clear image in the learner's mind, and partly to the habitual practice, from infancy on, of learning motor skills through imitation. Whatever the explanation, there can be little doubt of the necessity, in most instances, for the opportunity to imitate, when initiating a standardized skill. Parents from time immemorial have *shown* their children how to perform a task and have required the learner to imitate the performance. Needlework, musical-instrument playing, drawing, painting, pronouncing unfamiliar words, using mechanical tools, etc., have been taught, through the ages, by the method which requires the teacher to say: "This is the way to do it. Watch me and try to imitate my movements." Hence, the fundamental necessity of the teacher's being a master of the arts he would teach another. It is a common experience of vocational teachers to find that when their instruction in method of procedure does not correspond perfectly with their performance, while giving the instruction, the pupils invariably learn the method used by the instructor, rather than the one they are instructed to follow. Those engaged in the training of teachers have often noted this phenomenon. The experience of the race seems to suggest imitation as a necessary factor in the learning of a skill.

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[4] *Ibid.*, pp. 42–44.

Imitation, however, is chiefly important in *initiating* a skill. After acquiring the technique of an action by reproducing the movements of one already accomplished in the art, the student must repeat the action many times before he attains any useful degree of readiness. Failure to provide for *repetition* will result in producing amateurs rather than skilled performers. Modern psychology has been able to throw much light upon this aspect of vocational teaching through experimental studies in habit formation and fatigue.

Both the imitation of a master and frequent practice fall short of complete preparation for skilled vocational practice. A third necessary factor is *participation*, under typical conditions, in the actual work of the occupation. It is chiefly because of the necessity for occupational participation that no school has been able fully to prepare a student for a vocation. It is impossible completely to reproduce in a school the conditions of occupational life that affect the exercise of the vocational skills. Even where all the physical features of occupational life are simulated in the school, the psychological aspects are lacking. The feeling of competitive strain, the necessity for meeting commercial standards of workmanship, and the realization of the economic penalty exacted by vocational life for failure to meet its standards—all inject elements into the work situation that the school cannot fully reproduce. Hence, to complete the training of a student in a skill that is saleable in occupational life, part of the practice must be had under actual production conditions. This is as true in the case of the doctor, the lawyer, and the preacher as in that of the homemaker, the stenographer, and the clerk, or of the farmer and the mechanic. It is the factor of skill in vocational education that makes some form of apprenticeship necessary in training for every vocation.

Teaching Related Technical Knowledge

The teaching of related technical knowledge presents a different set of conditions. The purpose is to impart facts, the knowledge of which enables the worker better to use his skills. Merely to perform work skillfully does not necessarily mean to perform it wisely or intelligently. To be successful in occupational life a person must know when and where to use his skills and just what skills to use in a given situation. To have such powers of understanding and self-control involves many factors; but one very necessary factor is the possession of the technical facts that lie back of the skills and that are appropriate in a given situation. Learning these technical facts is part of the process of acquiring a vocational education. Perhaps success is possible no matter what the method of instruction; but, in general, it seems that the most desirable method is the one that imparts in the simplest and most direct manner the needed facts. This method in many instances, doubtless, is to tell the student what he needs to know. If the telling is done at the time when the facts are really needed, and the student recognizes the need, the teaching is very likely to be effective. The laborious "developmental" method of "drawing the facts out of the student" by dint of much discussion and questioning is perhaps desirable in some school courses in other fields of teaching. The purpose of vocational education, however, is simply to give the skills, facts, and attitudes needed, as quickly and effectively as possible. There are, however, certain types of related subject matter that are too complicated and difficult to be learned by so simple a method as merely being told. This is particularly true in the professions, where the needed technical knowledge is such that extended courses of instruction are necessary. In such cases, the usual best practices of general education are appropriate. In all cases, the most effective work is possible when the related material is presented at the time it is needed by the student in order to perform the skills of the vocation most efficiently. Related knowledge should be genuinely related, both in time and in content. For this reason, it is probably true that the teaching of professions, and other of the "higher" vocations, would be more effective than it often is if it were based upon a broad, solid foundation of liberal and scientific education; the instruction could then be limited to material that is definitely and obviously related to the skills being taught. The important factor in successful teaching of related technical knowledge is that the student feels the need of the knowledge, and is given an opportunity, at the time he feels such need, to acquire it rapidly and in the most direct fashion.

Developing Attitudes

For the successful practice of a vocation, one must have the attitudes appropriate to one's particular calling. Such attitudes as the following are involved in most occupations: pride in one's vocation, a persistent desire for the highest degree of efficiency, a feeling of social responsibility as a worker in the particular field involved, jealousy for the prestige of the calling, and high standards of vocational ethics in dealing with clients or employers and with fellow workers. Attitudes of this sort, as well as the opposite kind, are in large measure acquired by unconscious processes. One is likely to assume, by gradual degrees, the attitudes of his associates or his superiors in authority in the vocation. Vocational attitudes are, however, much too important to leave wholly to chance, and it therefore becomes a part of the work of vocational education to build desirable vocational attitudes. Since attitudes are essentially emotional in character, the problem is to produce appropriate, or desirable, "feelings" with reference to the vocation. Basic factors are vocational self-respect and occupational pride. The other desirable attitudes seem to be predicated upon these two; hence it is important, as a phase of training, to develop these fundamental feelings.

An effective means of leading a learner to an attitude of vocational self-respect is to bring him, through effective training, to a feeling of mastery. There can be no large degree of self-respect as a practitioner unless one is conscious of the possession of skill and expert knowledge. Nothing can take the place of such consciousness. Mere overconfidence, or egotism, does not produce the necessary attitude; it must come from genuine possession of knowledge and skill. For this reason the vocational teacher should be much concerned with imparting a rich store of professional, or occupational, lore and technical facts, as well as with rapid development of a high degree of skill.

Occupational pride, on the other hand, grows from a knowledge of the economic and social significance of the [illegible] to which one belongs [illegible]ip with other members of the occupation. This feeling comes in part from the stressing, by the vocational teacher, of the importance of the vocation; and from putting the student in possession of the history and "secrets" or "mysteries" of the craft. Few things will produce the needed pride of occupation as effectively as a special knowledge of its history and "mysteries," and the realization that such knowledge is the peculiar possession of the members of the craft or profession. Inspirational talks, membership in professional or occupational societies, and—more than all other influences, perhaps—an unimpeachable occupational attitude maintained consistently by the instructor, are also means of producing a desirable occupational pride. Proper attitudes of social obligation can be developed through example and precept, and through the insistence, on all suitable occasions, upon the practice of a high type of social and occupational ethics. It is not safe to trust to vocational life the task of enforcing high standards of vocational ethics. If the vocational-training agency neglects the building of desirable attitudes, they may or may not be developed by occupational practice. Its importance makes it one of the major obligations of vocational education. Above all techniques of method is the example of the vocational teacher. His attitudes will inevitably affect the attitudes of his pupils.

Theory and Practice

Vocational teachers, increasingly, are losing faith in what Snedden called "cold-storage education"—the teaching of a large body of principles and technical facts before students have any use for them, hoping that when a use appears the student will immediately recall the principles and facts, and make appropriate applications of them. Experience clearly indicates the fallacy of the method. There are, at least, two causes for the failure of this procedure: in the first place, the study of theory before the practice which necessitates its knowledge is not sufficiently motivated to lead to its mastery; and in the second place, the mere intellectual acceptance of facts, or principles, is a very different thing from the ability to apply effectively those facts, or principles. Students seem to need to be taught facts and also taught to apply facts to concrete situations. For this reason, vocational teachers are finding that the most effective teaching proceeds in this order: first, the student is confronted with a practical problem or necessity for action, and is encouraged to attempt to do what is required; second, as he proceeds and becomes conscious of a need for knowledge, the necessary knowledge is given; and third, he is then taught how to use his knowledge in the particular situation before him. A rigid adherence to this sequence seems to be particularly necessary in the training of nonprofessional workers. It is the traditional method of apprenticeship and is used, in large measure, by corporation schools in training high-school and college graduates for particular positions in industry. In fact, any other method of learning is rarely met outside a school.

It is noteworthy that practice before theory is the normal or "natural" human way of learning. Man built bridges long before the science of structural design was developed. He sailed boats long before the sciences of navigation and of naval design were acquired. Children learn to talk long before they study grammar. Theory normally develops from practice. Man does what is needed to meet his purposes and only gradually discovers the basic reasons for his successes and failures. The mind seems normally to follow that sequence and the process rarely is reversed in human history. The schools would profit greatly from a greater recognition of this fact. Vocational education seems peculiarly unsuited to the traditional method of teaching principles and related facts before the practice that gives them value is undertaken.

The Project in Vocational Education

The project method of teaching has long been used in vocational education. It has found its greatest use in agricultural and industrial education of less than college grade. In fact, its success as a means of holding interest and motivating the study of technical facts and related knowledge in these fields was the chief reason some years ago for the attempts to adapt it to the teaching of academic subjects. Its use in homemaking and in commercial education of less than college grade has also been extensive; but it has had a very limited use in vocational education of college grade. It seems to lend itself more readily to the teaching of boys and girls. This is probably due to the "immediate-mindedness" of children—their interest in the immediate effects of their activity and their almost total lack of concern with ultimate results. The psychological and pedagogical significance of the project as a teaching device has been discussed so generally that it is important here only to indicate its special values in vocational education.

In agricultural education, homemaking education, commercial education, and industrial education, of secondary-school grade, the project has been extensively used. The occupations for which these types of vocational education prepare usually involve a series of such clearly defined and markedly concrete projects as raising a crop of corn, harvesting the wheat, reroofing the barn, cooking a meal, cleaning the house, preserving a given quantity of fruit, opening a set of books, getting out the monthly bills, putting on a sale, framing a house, making a pattern, making a set of drawings, etc. Hence it is important that in the training program the learner be habituated to undertaking, and carrying through, complete projects. In a project that is typical of the vocation for which he is preparing himself, the necessary skills and technical knowledge will be involved; and the project offers a normal organizing center for his new acquisitions of skill and fact. The interest-holding and aptitude-testing values of the project in such fields of work seem obvious; and it is highly useful in developing modes of thought and procedure characteristic of the occupation concerned. The project method, however, even in these fields of vocational education, cannot be used exclusively; exercise work is often necessary to develop manual skill, and collateral lessons in related technical material, not immediately involved in the projects used, are sometimes needed. But the project is the core of much of the vocational training for the occupations listed above. To get the maximum value from the project method the teacher must refrain from doing the pupil's thinking for him. The pupil must be held responsible for planning and executing in logical sequence every step from the beginning of the project to its successful completion.

The Case Method

Probably because of their historic association with liberal education, the "learned" professions have, until recent years, used chiefly the traditional methods of the liberal-arts college in the preparation of those entering them. Courses have been arranged in logical, rather than pedagogical, sequence; great stress has been placed upon principles and theories presented, more or less dogmatically, by the usual lecture or textbook procedures. In recent years, however, efforts have been made to develop more effective methods—methods more in harmony with the character and purposes of vocational education. Among the newer practices, the case method has come to be held in great favor. It is the method by which actual cases in vocational practice are studied, either firsthand or by means of detailed records. Law schools have made the largest use of this method. Briefly, their procedure is as follows: Instead of presenting the principles of criminal law, and citing a few cases merely to illustrate the points made, the instructors give the students records of actual cases that have been tried and settled; and the students make a careful study of what actually took place. This method has the advantage of being concrete and interesting; and, for the purpose of training young people to deal in a practical and effective manner with the daily problems of actual practice, it seems to be an efficient method. It is particularly exposed to the danger of an overemphasis on expediency at the expense of principle, though it need not lead to such a result. Law professors are by no means unanimous in the view that the case method is the best for all law teaching, but it has found a very general acceptance in colleges of law in the United States. Schools of medicine, journalism, agriculture, commerce, and education have also made a limited use of the case method. It appears to have its chief, if not exclusive, use in vocational schools of college and university grade. In colleges of education its greatest utility seems to be as a method of training school administrators. It is probably most effective, in any field, when used with mature students and with those who either have had practical experience in the vocation being studied or have observed closely the procedures of those engaged in vocational practice. Whatever the limitations of the case method, it seems to be a definite advance over the traditional procedures; and it will no doubt come to be standard practice in particular phases of all professional education.

The Selection of Methods

The question of method is always an important matter for the teacher of vocational education to consider. ~~Both speed and efficiency are involved in vocational training~~, and the results of the training given are much more easily determined than they are in liberal education. Hence, the method used becomes highly important. Mere tradition should exert small influence, and the chief question should be "What method will produce the most effective worker in the shortest time?" The teacher in any field of vocational education ought, therefore, to be familiar with all available methods and to be able to adapt himself easily to any method that will meet his immediate needs most effectively. It is not improbable that several methods should be used in the same field and that in special cases a combination of two or more can be effectively utilized. In each case, the method chosen should be the one most nearly in keeping with the character of the vocation involved, the age and previous education of the students, and the type of worker to be trained. Because vocational education is concerned with the training of all grades of workers, from unskilled workers in routine tasks to the highest grade of professional practitioner, a variety of tested and efficient methods is necessary. Progress will come only from many experiments in procedure; and the methods now being tried in the various fields should therefore be carefully studied and evaluated, not with the purpose of settling upon one best method but of dealing with each field and aspect of vocational education in the most efficient manner. The contemporary interest in this subject promises much for the improvement of vocational-education practices in all departments of the field.

Summary

The teacher of vocations has to be concerned with the threefold task of training in standardized skills, teaching related technical facts, and building desirable occupational attitudes. Each of these phases of his work necessitates a technique somewhat different from that of either of the others. The desideratum, in each case, is ~~the simplest~~, most direct, and ~~most efficient procedure~~. The purpose is ~~vocational efficiency;~~ and in choosing methods, that purpose must take precedence over any other possible end of teaching. In general, vocational education, to be most effective, must follow the common ~~steps of untutored~~ learning, namely, first practice, ~~then theory~~. The adoption of this sequence in schools makes necessary a considerable reorganization of subject matter and teaching practice. Two popular devices for meeting the special conditions of vocational education are the project method and the case method. The former has been found particularly useful in vocational training of less than college grade, while the latter is chiefly used in training professional workers. There is great need for careful study and research to determine the most effective means of training workers in each of the many phases of vocational education.

QUESTIONS AND PROBLEMS

1. In what respects does the teaching of vocational attitudes differ from the teaching of social attitudes in general education?
2. To what extent is it desirable, in a given vocation, for the vocational school to attempt to teach skill?
3. To what extent should the school concern itself with the first occupational employment of its students?
4. List, define, and compare the various methods used in vocational education of less than college grade.
5. What method would you use to teach salesmanship to a class of employed salesmen? Why? Should you use a different method for a class of boys in a high-school commercial department? Why?
6. Contrast the project method with the case method. Defend the statement that the case method is better suited to university students than to those less mature.

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CHAPTER IX

Agricultural Education of Less Than College Grade

A Factor of Progress

Agriculture is not only one of the oldest vocations but one of the most significant in the development of civilized life. Like all the basic occupations—industry, homemaking, mining, barter, etc.—agriculture is at once a cause and an effect of social progress. As primitive people began to settle and rise from the level of wandering hunters to that of home builders, agriculture became an important aspect of self-preservation and was accorded a corresponding place in man's estimation. As agriculture developed in effectiveness as a means of food supply, the permanence and progress of social organization were promoted. Hence, from an early period in man's history agriculture has been of very great importance in the climb toward civilization; and it is today as basic as ever to the maintenance and progress of human life.

Early Influences

The evolution of agriculture has been replete with interesting incident and detail that have given to it its most characteristic features. It is probable that women were the first farmers and that, for long periods in the history of mankind, farm work was regarded as suitable only for women and children. From this fact, in part at least, comes the universal conception of agriculture as a family vocation, basically different from all other occupations. The consciousness, early acquired, of the utter helplessness of the farmer in the face of natural forces, which controlled the yield of his land, doubtless led to the amazing tardiness of any effort to improve agricultural methods. The historic isolation and comparative independence of the farmer have had much to do with his notable individualism and conservatism, in every age and in every country. These traits have affected his readiness to learn from others and to change the established modes of rural life and work. The underlying conditions of farming today are direct outgrowths of the early conceptions and practices of the race, when it gave up the chase as the sole means of maintaining life and took to the raising of animals and the cultivation of the soil.

A Way of Living

Agriculture is today chiefly a family occupation, and as Dean Davenport said, "Agriculture is not only a business, it is a mode of life as well."[1] A merchant and his wife do not live in a store, a machinist and his family do not live in a machine shop; nor is there such a thing as the "merchant life" or the "machinist way of living." But a farmer and his family live on a farm and live the "farm life." This fact makes agriculture much more complex than a mere vocation since it has to do with every major aspect of the farmer's life and involves all the members of his family. Agricultural education, then, becomes not merely a teaching of certain skills, technical facts, and vocational attitudes but also a training for effective living on a farm. The most skillful agriculturist might easily be a complete failure as a farmer because of his inability to live successfully the life of a farmer. This suggests the necessity of relating all manual and technical phases of agricultural education to the social conditions of rural life. Agricultural skills and sciences, if taught to be used, cannot successfully be divorced from the rural environment. Agricultural education is best understood as a phase of "rural education"—just one part of the total education of those who live and work on a farm.

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[1] DAVENPORT, EUGENE, "Education for Efficiency," p. 161, D. C. Heath and Company, Boston, 1914.

New Conditions

During recent years new economic conditions have greatly altered agriculture as a vocation. In the early history of the United States the social and political leadership of the nation, as well as the vast majority of the population, resided in the open country; today, the leadership and most of the people are living and working in towns and cities. Notwithstanding that farm life and farming in very recent years have become much more attractive to ambitious rural youth, particularly in the sections where there is much fertile soil, the ablest youth of the rural communities for the most part have their faces toward the cities. It is thought by agricultural leaders that the growing mechanization of agricultural production and the increasing application of scientific knowledge to farm work is rapidly changing the attitude of the ablest farm youth toward farming as a career; but to the present there is a constant relative decrease in rural population and probably a selection of ability that works to the disadvantage of agriculture. "As society becomes organized and industries differentiated, the number needed to secure food is reduced, and an increasing proportion of the people can be released for other service," said Dean Davenport; and he added in a footnote: "This is why the percentage of farmers in America is gradually decreasing and that of other industries increasing, as it should." [2] Thus there seem to be at least two forces operating to decrease the relative number of farmers. But the farmers remaining on the land now have to feed not only themselves and their families but also those who no longer produce food and have to buy it with city labor. Hence agriculture must be increasingly productive and efficient.

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[2] *Ibid.*, p. 177.

New Economic Factors

Another new factor in agriculture is the financial or commercial aspect of modern farming. Because of the specialization of product, the need for costly equipment, and the general increase in production costs, the farmer must have capital with which to operate. This involves a sort of financing quite different from the purely personal borrowing of years past. It involves a type of cost accounting, record keeping, and business training wholly unknown to his forbears. His vocation now necessitates a knowledge of economic principles, of world markets, of business movements, of commercial processes and management that places it upon a plane wholly different from that on which it has been through the ages. Merely because he is an original producer of food, a farmer, in the future as in all the past, may continue to maintain life by traditional methods and remain ignorant of the knowledge required for real success and progress. But the competition, which daily becomes stronger, will soon make real vocational success impossible for such a man. Hence agricultural education has the responsibility of preparing rural youth for what is practically a new vocation of farming.

Expansion of Agricultural Education

The educational forces of the nation are vigorously striving to meet this responsibility. Agricultural education as an organized public activity is quite young; but remarkable progress has been made. From very small beginnings, the field has expanded to huge proportions. The greatest impetus since the passage of the Morrill Act of 1862 came from the aid granted by the Federal government under the provisions of the Smith-Lever Act of 1914 and the Smith-Hughes Act of 1917. Since 1917 every state in the union has made extensive provision for vocational agricultural education of secondary grade. Practice has developed several distinct types of schools and classes. These are known as (1) part-time classes,[8] (2) day-unit schools or classes, (3) evening classes, and (4) all-day schools. Briefly they may be described, respectively, as follows: Part-time classes, or young-farmer classes, are for the farm boys who have left school and who want special courses and training in agriculture during some part of the year, usually the slack season on the farm. Day-unit classes are organized in schools that are too small to employ a teacher for one or more days a week. Evening schools are designed to render service to the adult farmer through organized courses of instruction operating often for ten weeks or more. All-day schools usually consist of courses carried on in high schools for boys intending to follow agricultural pursuits and who, as a rule, have been brought up on farms. Since these several types of class have appeared to meet particular needs, it seems clear that their relative importance depends upon the specific conditions to be met in local communities. Effective promotion by educational authorities, however, may cause communities to favor one type of class above all the others, solely because of the supposedly superior benefit to the pupils, notwithstanding that local conditions suggest another type of class. Hence, from the point of view of the most valuable sort of agricultural education to provide for those expecting to be farmers, the problem of the relative degrees of emphasis to place on the various kinds of classes is an important one. It is probable that more than one type should be maintained in each community since several types of student are usually found in every community.

Vocational agricultural education does not differ from other phases of vocational education in the need for flexibility of program and adaptability of offerings. For the mature farmer who has intelligently practiced his vocation for a period of years but wants special training in some particular phase of technical knowledge relating to his business, it seems most desirable to provide some sort of part-time instruction that will meet his specific need in the most effective manner and in the shortest possible time. On the other hand, a boy from the home of a successful farmer can with great profit pursue for three or four years a well-balanced high-school curriculum that makes ample provision for a full-time course in vocational agriculture. As in the other fields of vocational education, there seems to be a need for comprehensive programs of vocational offerings, based on accurately ascertained local conditions, so administered as to serve all the people of whatever condition. In a democracy this must be the aim of the schools.

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[8] Part-time classes during recent years are increasingly referred to as "young-farmer classes" or "adult-farmer classes."

Curriculum Making

Agricultural education has had to face the problem of developing desirable curriculums for the different types of schools. This is always a difficult undertaking in any new field. There are several approaches to a solution. The traditional procedure is to decide arbitrarily the subjects with which a farmer ought to be familiar and to arrange such subjects in a supposedly pedagogical order or in a logical order of precedence. This method of curriculum making has only tradition to recommend it. Another general scheme is to survey the activities and the general training needs of all the farmers and from such a survey to discover the basic or common factors, which are then set up as requirements of all students in the early part of the curriculum. In the later stages of the curriculum the characteristic local activities are stressed. Still another procedure is to build the whole curriculum upon the local agricultural conditions. Snedden thought that agricultural schools of secondary grade should provide for such definitely specialized agricultural vocations as poultryman, market gardener, orange grower, mule raiser, milk producer.[4]

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[4] SNEDDEN, DAVID, "Vocational Education," Chap. V.

Where local conditions make such specialized training advisable, provision should be made for those definitely planning to enter specific fields. Z. M. Smith summarized the problem of curriculum construction by saying: "The thought given to curricula construction, courses of study, methods of instruction, and programs of work has resulted in the general acceptance of the principle that both the subject-matter instruction and the supervised farm-practice activities should be based fundamentally on the major farm enterprises of the community, with specific application to the home farm of each pupil. Just why and how this principle should operate is not thoroughly understood in all cases. Some of the views held with reference to the efficacy of the principle in practice are not strongly tenable. Results obtained through the use of dominant farm enterprises in the processes of teaching, however, are sufficiently encouraging to justify further development along this line."[5]

H. M. Hamlin, commenting on recent trends in curriculum making, says: "We have largely departed from the older grouping of high-school subjects as Crops and Soils, Animal Husbandry, Farm Mechanics, and Farm Management, and call our subjects Agriculture I, II, III, and IV. We draw on each of the older fields in each year of the curriculum. There is a tendency to integrate class work, supervised practice, and the F.F.A. in their contributions toward certain general objectives. The first statement of objectives, formulated nationally, came out in 1930 and was revised in 1940. The acceptance of common objectives has done much to modify our thinking and practice. Evaluation in terms of these objectives and the setting of standards related to objectives have come later and are only now beginning to affect our practice significantly."[6] It is clear that in the matter of curriculum making, agricultural education is still in the experimental stage, and although great progress has been made, much more study of this important aspect of the field remains to be done.

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[5] SMITH, Z. M., Agricultural Education in Secondary Schools, "Objectives and Problems of Vocational Education," Edwin A. Lee (ed.), p. 108, McGraw-Hill Book Company, Inc., New York, 1938.

[6] HAMLIN, H. M., unpublished note to the author, 1946.

Methods

The factors conditioning the general methods of teaching vocational agriculture are not different from those affecting the other divisions of vocational education. There are three phases of the vocation involved: skill, related technical knowledge, and vocational attitudes. The teaching of skill requires imitation, repetition, and vocational participation. The teaching of related knowledge must be coordinated with the practice of the skills and should be presented when there is a felt need on the part of the student for such knowledge. Attitudes come partly from knowledge, partly from imitation, and partly from the feelings aroused by inspiring appeals of teachers and others whom the students respect. One of the devices that, through the history of agricultural education, has proved to be highly effective is the teaching by projects. Agricultural teachers are pioneers in the use of this device, and they have carried it to an advanced stage of effectiveness. In some instances projects are set up and carried through at the school or on the school plot of ground; but the more common practice is to organize home projects, which constitute profit-making enterprises developed as integral parts of the home-farm business of the year. Such home projects are carefully supervised by the school, and the related technical material is carefully correlated with them. The supervision of practice by the vocational-agriculture teacher formerly involved the use of specialized projects almost exclusively. These projects were chiefly such production projects as poultry raising, corn or potato growing, swine raising, etc. In recent years there has been a considerable modification of the earlier project method and present practice increasingly tends to analyze supervised practice into (1) productive enterprise projects, (2) improvement projects, (3) introduction of new farm practices, (4) development of new farm skills, and (5) acquiring of farm experience by those whose farm experiences have been limited and those without such experiences who are preparing to enter farming as a new occupation. This has come about as a result of the expanding of farm activities and the need for increased skill and technical knowledge to meet new production demands and economic conditions. Another growing emphasis in method is the building of skill and knowledge in farm management as a special phase of occupational success under modern conditions. The project method has greatly broadened in scope and is more closely correlated with both formal class teaching and the informal instruction involved in supervised practice.

Special Agencies

Aside from the agricultural high schools and the various types of vocational-agriculture classes in the ordinary rural high schools, several other agencies are making important contributions to agricultural education of less than college grade. Among these are the agricultural journals, college and university extension work, farm bureaus, college and university short courses, and the bureaus and departments of the state and Federal governments. Most of these agencies have been active for a relatively long period of years and have developed effective techniques. Their efforts are usually promotional, but are, of course, none the less educative for that reason; and they have contributed greatly to the progress of agriculture in this country. Several new agencies have been developed since the 1930's that have contributed to agricultural education. Among these are the Soil Conservation Service, Farm Security Administration, Farm Credit Administration, and Rural Electrification Administration. Their activities, altogether, cover the whole range of rural life. They promote the improvement not only of the farmer's business but also of the work and other social activities of the women and children of the farms. Certain duplication of effort could be avoided and efficiency generally increased if all these agencies were coordinated with the public-school program. Such coordination already exists among some of these, and it is reasonable to expect that within the near future much of the duplication of endeavor will cease. Improved transportation facilities, the rural telephone, daily mail delivery, the radio, and better rural schools all make inevitable the further rapid and marked progress in agriculture and a demand for more and better agricultural education by whatever agencies provided.

Teacher Training

The success of vocational agriculture in the schools obviously depends on the adequacy of the supply of competent teachers and the quality of the teachers. Facilities for training agriculture teachers before 1918 were extremely limited; but since the passing of the Smith-Hughes Act in 1917, remarkable progress has been made. Every state now provides for the technical and professional training of such teachers; and most of the states, through their supervisory staffs and the teacher-training departments of colleges and universities, provide excellent supervision and other forms of assistance to teachers in service. Itinerant teacher trainers in many states conduct instruction for beginning teachers, conduct conferences on the improvement of instruction, and take to the teachers much helpful material dealing with course content, methods, practices, and new technical developments. The most important factor, however, in the progress made during recent years in vocational-agriculture instruction is the high quality of the preemployment training of agriculture teachers. The requirement of a college degree for entrance to teaching positions and the rapidly growing tendency of agriculture teachers to earn graduate degrees in agricultural education constitute the most important factor in the generally high quality of work done in vocational agriculture in the high schools. No amount of supervision or other forms of assistance can compensate fully for lack of thorough basic preparation for teaching, and in this respect agriculture has enjoyed for many years a distinctly favorable position among the several divisions of vocational education. A general practice of agriculture teachers has been to take their first degrees in agriculture and carry a minor in agricultural education. There is a distinct advantage in this procedure where the agricultural-education faculty has a large share in planning the curriculum in technical agriculture for prospective teachers. Where such is not the case, it is probably better for teachers to be trained wholly under the guidance of the agricultural-education faculty. Where the professional faculty does not have great influence in determining the courses pursued by prospective teachers, their technical training may be unbalanced and largely inappropriate for the work they have to do as teachers. There are many unsolved problems in teacher training, starting with the selection of suitable candidates and ending with the most desirable means of promoting continuous growth and advancement, but vocational agriculture is well on the way to notable advances in effective teacher training.

The teachers in this field have in the past faced a very difficult problem. They have had to work too often with inadequate facilities and have been seriously handicapped in many cases by the persistent conservatism and skepticism of the patrons of the rural schools. Both these difficulties are rapidly disappearing, however, and a successful teacher not infrequently is able within a short time to prove the value of his instruction by incontrovertible facts; for example, the striking yields of the school plot or the pupil's home-project ground and the money earned by the pupils as a result of following the teacher's instructions. All the influences operating to break down the isolation of the farm home are working in the agricultural teacher's favor, and it is a safe prediction that within a few years he will find his working conditions no less favorable than those of the teachers in the other fields of vocational education who find their employment in the cities.

Trends

The discernible trends in agricultural education are, on the whole, identical with those in the other branches of vocational education. They have to do with the number of different groups for whom provision is made, the selection of pupils, the quality of work offered, the measuring of results of teaching, the preparation of teachers, and the relation of the activities of the field to the program of public education. There is a marked tendency toward endeavoring to reach with effective courses all ages and classes of farmers. Whenever a need arises for some form of vocational education, the first thought seems always to be that it must be met by means of a full-time school for children. Agricultural education of secondary grade was no exception to this general rule. However, the trend now appears to be definitely in the direction of developing various types of opportunities as community needs suggest. The part-time school or class for farm boys who are past the compulsory full-time attendance age and are engaged in farming is receiving increasing attention and support. The evening classes for adult farmers likewise are steadily growing in number and favor. These, with the older full-time classes, open opportunities for vocational training to all types of farm workers of less than college grade and bring agricultural education into line with the trend toward a genuinely democratic scheme of public education.

The assumption that all boys living on the farm and attending rural schools are in need of vocational-agricultural education is obviously unsound, though it seems to have been somewhat generally made during the early years of the vocational-education movement. There is now a tendency to try to restrict the membership of vocational-agriculture classes to those who are reasonably sure that they will engage in farming as a vocation or who are already so engaged. Certain general-information courses dealing with agriculture undoubtedly will continue to find a place in the curriculums designed for those who do not expect to become farmers, but the vocational courses, increasingly, may be expected to exclude the students who have not definitely chosen agriculture as their vocation.

Beginning with textbook teaching, passing soon to an overemphasis on laboratory work and the use of elaborate equipment, the modern agricultural-education movement, as indicated above, has come to center its teaching program increasingly on supervised practice, guided by the needs of local farm life. This change means gain from whatever angle it may be viewed. It makes for much more effective teaching than any other known procedure; it is economically advantageous to the pupil, his parents, and the community; and it serves effectively to coordinate the work of the school with the economic activities of the community. There are a few teachers who have not yet achieved a complete divorcement from traditional textbook, school-laboratory, school-subject types of course organization.

In a very real sense the long-time farming programs of the kind that is rapidly forming the core of all vocational agricultural education is at once a means of instruction and a test of accomplishment. If the projects involved in the program are financial successes, the program has proved itself successful, and further testing of accomplishment seems superfluous. There are, however, phases of the teaching program that make the development of "objective" tests desirable, and agricultural education shows a tendency to increase the use of such tests.

Since the tendencies in the training of teachers have been pointed out in a previous paragraph, it is sufficient here to say that the general tendency is toward more definite objectives based on an accurate activity analysis of the work of successful teachers and toward a greater emphasis on learning how to teach through actual practice under supervision. As in vocational-agricultural teaching, the work of teacher training is constantly changing in an effort to improve the process and the product.

The status of vocational-agricultural education, with reference to other phases of public education, is becoming more clearly defined. In the early stages of its growth, it was regarded variously as a division of applied science, a "practical" sort of textbook study, with a strong vocational leaning, and as a means of interesting those boys not quite able to succeed in the traditional academic classroom pursuits. More and more the specifically vocational character of the work is recognized, and a clear distinction is made between the courses that are given for purposes of general information and those designed for the single end of training farmers. This tendency is marked, and it is of great significance as a factor in the continual progress of vocational-agricultural education.

Summary

Notwithstanding the fact that agriculture is one of the oldest of the established vocations, it was one of the slowest to accept scientific methods and to welcome programs of vocational education. Since the vocational-education movement of secondary grade became thoroughly organized, however, remarkable progress has been made in agricultural education. Much of this progress can be attributed to the high standards of teacher training that prevail in the field; and the continued progress in the methods of teacher-training agencies is a strong guaranty of an uninterrupted advancement in agricultural education for many years. The most significant aspects of the program are (1) the development of the project taken from local community activities as the center of the curriculum, and (2) the extension of the program to include part-time pupils and adults, by means of part-time and evening classes. The problem of agricultural education parallels, in a marked degree, that of industrial education and the other phases of vocational education. It has acquired a more definite status than it formerly had, and is therefore now free to adopt methods and materials unhampered by academic traditions. It is now a clear-cut division of vocational education, with the single purpose of training successful farmers. Many difficult problems remain to be solved, but the growing tendency to apply the methods of scientific research to the solution of its problems promises much for the future growth of this important phase of public education.

QUESTIONS AND PROBLEMS

1. List the modern specializations in agriculture.
2. What are the educational and guidance implications in the statement that agriculture is not only a vocation but a mode of living?
3. What effect should the trend toward the city of rural populations have on agricultural education?
4. Is there any justification for providing agricultural courses in city high schools? Explain your answer.
5. Contrast agricultural education with industrial education, with respect to the needed emphasis upon skill, related knowledge, and attitudes, respectively.
6. To what extent should local conditions determine agricultural curriculums?

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CHAPTER X

Business Education of Less Than College Grade

Growth of Business Education

One of the most striking features of contemporary secondary education is the number of students enrolled in the business courses. Not only is the number large, but it is growing larger at an amazing rate. High schools are called on continually to enlarge their commercial departments and expand their curriculums, for it is in the public-high-school departments that the growth is most marked. The business college, which for so many years dominated the field of business education, is slowly losing ground as the public-school commercial departments increase in numbers and enrollments. This is in harmony with the growing conviction on the part of the people that in a democracy the public schools should provide facilities for the educational needs of all, whether those needs be chiefly cultural or vocational, at any given period in the life of an individual. As numbers have increased, the range of courses in public schools has expanded, and efforts have been made to extend the opportunities for business education to all who need it. To this end the evening schools and part-time schools have given increasing emphasis to their business courses, and the enrollments in both cases have been growing almost as rapidly, during recent years, as the enrollments of the high-school departments. Not only have all phases of public-school business education experienced most remarkable growth during recent years, but a like development has occurred in the courses offered by private corporations for their employees and by the Y.M.C.A. and other institutions not conducted for profit.

The reason for such marked expansion in this field of vocational education, undoubtedly, is to be found in the great changes everywhere taking place in business. The enormous expansion of commerce in the United States during the past half-century has created many new opportunities for commercial workers. Equally significant, however, have been the changes in business organization. Combinations of numerous small companies and astonishing expansion of already large concerns have resulted in an unprecedented demand for office and other commercial workers. Coincidental with this growth in magnitude has come the inevitable division of labor and specialization of process. This has opened the door of opportunity to thousands of nontechnical workers and has resulted in the almost complete feminization of the office forces of business. The growth of modern business has multiplied the opportunities of employment for those with business training, but the increase in numbers of those taking such training has occurred chiefly among girls and women. The situation at the present time, then, seems to be (1) that all types of business-education schools and departments, except the traditional "business college," are growing at a most remarkable rate; (2) that the greatest growth is in the public schools; and (3) that more girls than boys enroll in business education.

Early Character

The early business schools taught, primarily, penmanship, bookkeeping, stenography, and the parts of arithmetic needed by bookkeepers and storekeepers. The characteristic subjects were penmanship and bookkeeping. Business correspondence and all account-keeping required a legible and attractive handwriting, and the popular teachers of the early period were the expert penmen. The advent of the typewriter placed a greater emphasis on stenography and added, of course, the new skill of typing. Whereas the early students, chiefly boys, expected to become proprietors and wanted training that would aid them in their ambitions, the student body, gradually at first, then very rapidly, changed to a different group of young people. They became, increasingly, girls and chiefly those who expected to work in offices for a few years only. Their needs were met mainly by courses in stenography, spelling, and typing. But the tradition of teaching bookkeeping was too strongly established to be quickly changed, and the rather absurd practice of requiring future stenographers and typists to take bookkeeping persisted. The early schools were dominated by the theories and practices of the business life of the period lying between the Civil War and the close of the nineteenth century and by the educational philosophy of the same period. It was this sort of business education that the public high school, at the outset, tried to take over from the private business college; and it was the former "business-college" teachers who manned the new high-school departments. It is not to be wondered at, then, that the high schools have been seriously hedged about to the present day by the traditional notions and practices of the nineteenth-century business schools. Most of the weaknesses of modern business education of secondary grade can be attributed to this fact. The early schools served their day with a fair degree of effectiveness, but their curriculums and methods became too firmly established and have exercised altogether too much influence on modern business education. A new generation of college-trained business teachers is pointedly questioning traditional procedures and theories; and there is promise of much improvement, in the near future, in this important field of vocational education.

Present Status

Business education of less than college grade is obviously in a transition stage of development. The note of doubt and uncertainty is the one most frequently heard. The questions raised by leaders in the field are not confined to any single phase of the work but relate to the most fundamental aspects of business education as well as to details of method or organization. In line with efforts in other phases of education, an attempt is being made to answer these questions by means of scientifically conducted research and to build up a new philosophy of business education. But only a beginning has been made in these directions. The general practice is to teach the subjects that were established by the private schools before the public schools began to dominate the field. Little effort is made to meet the specific needs of modern business, and the vocations usually entered by boys are, for the most part, ignored. Very little attention, seemingly, is given to local demands and office practices, the emphasis being upon standardized courses and methods of work that are supposedly desirable for all office workers. Here and there, progressive departments are breaking away from the traditional program and are adding the subjects needed by the great body of young people entering the business employments, other than bookkeeping and stenography.

Much of the weakness in the present situation results from the inferior training of the teachers. Before genuine vocational education for business callings can be provided, the schools must employ teachers who have had successful experience in modern business organizations. In addition, the teachers must be better prepared both in general and in professional education than they now are. The status of business education in the high schools is in large measure attributable to the failure of school administrators to appreciate the importance of this field of work and to understand the conditioning factors involved in all effective vocational education. Too often the responsible heads of schools think of the business-education department either as a necessary evil to be tolerated because it is demanded by the public or as a convenient place to collect the weaker students who have to be given something easy in order to remain in school. Where the importance of business education as a necessary division of a democratic program of vocational education is understood, real progress in its proper development is being made. Seldom is a distinction made between what may be designated as *commercial-arts* education, and *vocational* business education. This distinction is vital to an intelligent administration of business-education departments and schools. The teachers themselves seem greatly confused with reference to the basic character and purpose of their field of work, and little general progress is possible until those most concerned agree upon and see clearly the ends toward which they are striving.

Basic Weakness in Accepted Philosophy

That few business teachers think of their work as genuine vocational education seems evident. In this amazing fact is to be found the cause of the confusion and much of the ineffectiveness of the business courses of secondary grade in the United States. Like other vocational subjects which have sought a place in the public schools, business education has felt under the necessity of proclaiming its disciplinary and cultural values and of minimizing, or failing to put forward, its specific vocational purposes. Furthermore, it has been clamorous for recognition as a valuable means of preparation for higher education. This rather general attitude of business teachers is an important cause of the failure of the public-school departments of business education to respond to the changing needs of modern business. If the purpose of such courses is mental discipline, rather than specific vocational education, obviously there is no reason to give up standardized, tested subjects and methods for those subjects and methods that prepare young people for the jobs they will try to fill in local business organizations. Of this situation, Barnhart wrote in 1928:

"On the whole, commercial courses, whether private or public schools, with the exception of the high school are not really vocational courses, certainly not in the sense that the trade or agricultural courses are vocational. Parents, employers, taxpayers, and pupils generally expect the commercial courses to provide as effective preemployment training as can be given, although school administrators in charge of commercial courses do not consider vocational effectiveness as their major responsibility. So long as teachers of commercial subjects continue to pursue the *ignis fatuus* of college entrance credits, mental discipline, and general culture, no noteworthy increase in vocational effectiveness can be expected from the commercial courses."[1] Unfortunately this statement is almost as accurate an estimate of the situation today as it was in 1928 and before. This fundamental weakness in the situation can be overcome by recognizing two types of business course in the schools. One type should be provided for those young people who want to know something of the processes and activities of the commercial world. The function of such courses is interpretive, and therefore cultural. In a great commercial nation like the United States, all boys and girls ought to have a clear understanding of any factor in their environment that plays so large a part in modern life as commerce. Courses of this character are best described as commercial or business-arts courses and are frankly and definitely given for their value as part of one's general education. They are not vocational courses, and should not be regarded as vocational education. On the other hand, there also should be provided business courses that are definitely and specifically vocational in purpose and open only to those who are preparing for specific business occupations. These courses should be much more specialized than the business-arts courses and should place much greater stress upon the acquisition of skill. The vocational courses ought, also, to recognize different grades of workers, providing short-unit courses for the semiskilled; intensive, narrow, skill-developing courses for certain highly skilled workers; and thorough basic courses for others preparing for positions requiring technical knowledge rather than particular skills. The vocational courses should be freed from all restraint imposed by requirements for college entrance, general high-school diplomas, or any other sort of unrelated academic recognition. When such a distinction of business courses is generally made, the present compromised position of business education will be changed to that of an aggressive, positive force in the national scheme of education. Both business-arts education and vocational business education will then be able to move forward unhindered by the uncertainty and confusion that now characterize the whole field of business education of less than college grade.

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[1] BARNHART, EARL W., Trends in Commercial Education, in Edwin A. Lee, "Objectives and Problems of Vocational Education," p. 118, McGraw-Hill Book Company, Inc., New York, 1928.

Problems of Curriculum Making

When vocational business education is definitely divorced from cultural education, insofar as its immediate aims are concerned, the problem of curriculum construction becomes greatly simplified. The pupils then are preparing themselves for specific beginning jobs in business organizations. The curriculum in any given school becomes merely a program of manual, technical, and related academic courses that prepare the pupils for the jobs they expect to enter. To ascertain what these courses should be requires a firsthand study of the jobs into which the dropouts and graduates are likely to enter. Obviously, since the schools cannot give all the training needed for business jobs, any more than they can for industrial or homemaking jobs, the school curriculum must offer training in those skills and items of information that can most efficiently be given under school conditions, leaving the very highly specialized tasks and facts, required in any particular office or business concern, to be taught by the employer. Undoubtedly, there always will exist much variation with respect to the particular skills and facts that schools in different communities should teach. Therefore, the curriculums of vocational business schools and departments ought to be based upon carefully conducted surveys of local business requirements. It seems equally clear that the best results are obtainable only when close cooperation obtains between the training departments of local business organizations and the business departments of the schools. By placing the emphasis upon actual needs found to exist in the commercial institutions that employ the products of the schools, the business curriculums of the schools will become genuinely vocational and effective. To say that the curriculums of business schools and departments should be based upon actual needs, does not mean that the opinions of employers should be made the sole criterion of selection of teaching materials; but it means that by conferences and careful observations of business practices, school heads should work out curriculums specifically designed to prepare pupils for the positions they expect to fill. Businessmen rarely are competent to determine methods or even means of training, but they can define the skills, attitudes, and kinds of information needed. It is for trained educators to formulate the programs of courses best adapted to the attainment of clearly defined ends. The need is for genuine cooperation between school heads and employers.

Course Making

Like curriculum construction, course making should result from firsthand study of business jobs. The traditional practice of building a course around some textbook is rarely desirable. A much more appropriate procedure is to make a careful analysis of each occupation, or job, for which the school is attempting to prepare students. This analysis may be made by any of several commonly used schemes; but perhaps the simplest and most practicable is that developed by Professor Robert W. Selvidge and frequently used in industrial education. His scheme requires the listing of all the "unit operations" performed in any given occupation, of all the needed "items of information," and of all the "special problems" involved. When these lists are made complete, instruction sheets, known respectively as "operation sheets," "information sheets," and "problem sheets," are written for the items on the lists and given to the students when needed. Such a scheme ensures both the definiteness and the flexibility essential in all effective vocational courses and permits the needed emphasis, in any given case, on either skills or knowledge, with the elimination of all irrelevant material. The sharp distinction between skills and technical knowledge, which this method involves, is greatly needed in business-education courses. By whatever method the courses are made, they should include only materials that are known to be needed in modern business. The more or less vague objectives of general education should be excluded rigidly by course makers when organizing the teaching materials for business jobs. Doubtless the greatest need to meet is that of securing course makers who have the vocational point of view.

Business Evening Classes

Business is changing so rapidly in magnitude, methods, and character of organization that business education can no longer properly be regarded as a process to be gone through once for all during early life. Often a person needs to return to school for brief courses of training at several periods of his life. One cannot receive a promotion without changing occupation; and every change of occupation necessitates special training. Often the needed training may be easily acquired in a short time on the job, but increasingly adult business workers are finding intensive short-unit courses desirable, from time to time. To meet this need is the peculiar function of the evening school. The steady growth of these schools indicates their importance. The evening schools conducted by public-school systems have shown themselves to be particularly shortsighted in arranging business-education offerings. The failure to understand the essential nature of evening-school instruction has robbed these important agencies of much of their possible effectiveness. The first requisite of a successful evening school is a staff of teachers thoroughly trained in vocational practices and in teaching methods. In addition, such teachers must be able to understand the outlook and actual needs of adult business workers. It is extremely difficult for a day-school teacher of children to grasp the controlling idea of the evening school. The evening-school student is an adult who usually knows exactly what he wants and is impatient of any delay in obtaining the instruction he seeks. Furthermore, he expects to be treated as an adult and to be taught by one who knows more than he does about his business. A teacher with the high-school point of view who is not an experienced business worker and who is not expert in his field cannot hold such students very long. In addition, the evening courses must be arranged in short units of very definite content. Textbook courses are particularly objectionable for this type of teaching. Evening courses covering, in short units of instruction, the practices and needed related knowledge of modern business, and taught by business experts who know how to teach adults are greatly needed. Where such schools are available they are filled with students, and the usual mortality of evening students is reduced to a minimum.

Teacher Training

As stated in an earlier paragraph, one of the most serious problems confronting progressive leaders in the field of business education is the inadequate preparation of business teachers. These teachers generally have been deficient in all three aspects of their training—namely, in general education, professional education, business training—and in experience. For several years after the public schools began offering business courses the chief source of supply of teachers was the private "business college." It is still true that graduation from "business college" constitutes a valuable item in the list of qualifications presented by some applicants for teaching positions. Because of the difficulties encountered by school heads in securing qualified teachers of business subjects, the tradition has become fairly well established that well-educated, thoroughly trained teachers with successful business experience are not available, and therefore it is to be taken for granted that the personnel of the business-education department staff is below the average of the school staff. This tradition constitutes a most unfortunate handicap to effective business education in the public schools. Since the state teachers colleges have set up departments for the training of business teachers, they have greatly improved the general status of these teachers; but from the standpoint of vocational education, little improvement has resulted. The more recent efforts of the universities to prepare teachers have raised the general professional status of the teachers somewhat; but still the work in the secondary schools has not been greatly improved as vocational education. The chief defect of the business teachers has been, and is, their lack of successful experience in business. It is almost impossible for a university or teachers-college graduate who has not had several years of successful experience in the commercial vocation he is trying to teach to give genuine vocational training. Such teachers can give fairly satisfactory courses in the business arts, but they need the training to be had only from prolonged vocational experience in order fully to meet the vocational-education needs of their pupils.

There is a tendency to require college degrees of business teachers, and as this requirement becomes more common, the general level of effectiveness of the business departments will be raised. The next step must be to demand successful business experience. This experience can be had before or after the college training, or, in exceptional cases, during that period. But because of the rapid changes in business organizations and methods, the desirable time for the commercial experience seems to be immediately before beginning to teach. Not only is this desirable, but continuous contact with business ought to be maintained by all business teachers. The general situation appears to be steadily improving. The leaders in business education, increasingly, are studying and profiting by the lessons learned in the other divisions of vocational education; and as a result, the importance of better professional training and longer vocational experience will undoubtedly receive greater recognition in the future.

Selection and Guidance

Vocational business classes ought to be freed from the thousands of pupils who have no serious intention of practicing the skills vocationally they are trying to acquire, and from the pupils who are obviously unfit to engage in the vocation being studied. Vocational education should be restricted, as far as possible, to those who definitely expect to engage in the particular vocation taught and who have at least a reasonable chance of success in that vocation. The full-time day school, serving those between the ages of fourteen and eighteen or nineteen, should be chiefly concerned with the preparation of its pupils for the simple beginning jobs. After a period of apprenticeship in business, these young people will be ready for intensive specialized training for the more advanced and permanent positions in business. They should then be able to return to evening schools and part-time schools for such training. Studies of office jobs suggest the need for training more youth in the simpler routine office tasks; that much less emphasis be placed on bookkeeping; and that it is futile to train large numbers of boys in stenography and typing. The ordinary practice of providing uniform courses in the traditional business subjects clearly is not the most desirable means of giving immediate vocational help to those who will become office workers. An effective program of vocational counseling should precede the enrollment of all vocational business students so that time will not be wasted in acquiring skills that will almost certainly be useless. And, as far as practicable, dropouts and graduates should be followed up to determine the value of the counsel given and to offer further guidance with reference to additional training after a place is made in business and the direction of advancement is discovered. The complexity and the changing character of modern business make the vocational and educational counseling of business students very important. The old faith in some kind of basic or general business training, which will equip a young person for any business job he may find, is not in harmony with experience. Vocational education, to be efficient, must be given only to those who are known to be qualified mentally and physically for the occupation taught them and who definitely expect to enter such occupation on completion of their training. Like the other vocational branches, business education has been too lax in the selection of its pupils.

Distributive Education

After 1938 much progress was made in distributive education under the stimulating effects of the George-Deen Act, which made provision for Federal aid to this phase of business education. This made possible the employment of state supervisors of distributive education, and that fact contributed much to the development of state and local programs. The distributive-education program was designed to fill the gap in the total scheme of vocational education, which provided for agriculture, industry, and homemaking but made no provision for training those who distribute the products of farm and factory that are used in the home and by other producers. Distribution seemed to be the one weak link in the chain. There are great possibilities in this area of business education, but it is probable that its fullest development cannot be realized apart from the other phases of business education. While it is true that distribution is the primary function of all business, it is not the only function of business, and its processes are inextricably related to all other phases of business. Hence it seems reasonable to conclude that distributive education will be developed most effectively when provided as an aspect of a well-rounded program of business education. The need for both preemployment training and part-time instruction for those engaged in distributive occupations is so great and so apparent that it is safe to predict a notable growth, both in the amount of such training and in the quality of the instructional programs developed. In an analysis of the needs for the years immediately following the Second World War that appeared in the publication of the U. S. Office of Education called "Vocational Education in the Years Ahead," the following twelve needs in distributive education were listed:

1. Short, intensive refresher courses for adults formerly employed in offices or in stores and who, after service in the armed forces or in war industries, return to the same or to a similar type of civilian employment.

2. Supplementary training for the large number of inadequately trained persons who were employed in business occupations during the war emergency and who find it necessary to take additional training in order to continue in such work.

3. Courses in business operation and management suited to the needs of owners and managers of small businesses and of workers who are in line for promotion or who are planning to establish small businesses for themselves.

4. Evening and part-time instruction on an itinerant basis, to meet training needs of adult workers in offices and stores located in the smaller towns and in sparsely populated areas.

5. Supervisory training for department heads, junior executives, and managers, both in distributive businesses and in office, in (*a*) on-the-job methods of teaching an employee to perform his work correctly and efficiently; (*b*) methods of handling job relations problems; (*c*) methods of conducting a group conference; and (*d*) methods of simplifying job operations and improving job practices.

6. Definite training for those employed in the distribution of such commodities as groceries, shoes, home furnishings, hardware, automobile supplies, drugs, dairy products; and for those employed in the distribution of farm feed, farm supplies, and farm implements.

7. Training for store managers, supervisors, and others in various phases of retailing, such as accounting, merchandise display, store layout and arrangement, advertising, buying, and credits and collections.

8. Training for route salesmen employed by such businesses as laundry, bakery, dairy, ice, and fuel—which should deal with such topics as consumer relations, building a route, handling complaints and adjustments, and specialized sales and service practices.

9. Training for salesmen of such specialty products as electric equipment and appliances, heating equipment, farm machinery and equipment, and office machines and equipment.

10. Training for wholesalers, jobbers, and manufacturers' agents in marketing practices appropriate to their several fields.

11. Training for sales managers in the planning, training, and supervision of sales forces on local, district, or national bases.

12. Training for office managers and supervisors in various phases of office operation, such as planning, scheduling, measurement of volume, office records, filing, selection and use of office supplies and equipment, and the supervision of office workers.

This list suggests the magnitude of the problem of distributive education and the directions in which it should move. It omits one aspect of the problem, however, that needs careful consideration, namely, strong preemployment courses taught in the upper levels of high school to selected students, and similar courses in post-high-school classes of a terminal type where they exist.

Trends

Business education has been slow to respond to the changes in commercial methods and organization. It seems to have been uninfluenced by the important developments in the other fields of vocational education of less than college grade; however, there are indications of a beginning toward the much-needed readjustments in this field. In the past, there has been a serious lack of broadly trained leaders. Today men with graduate training are entering the field in increasing numbers and are assuming places of leadership. City school systems are gradually raising their requirements for certification of business teachers. And in many places an earnest effort is being made to bring the business courses into a closer relationship with local business activities. Of these, the gradual increase in the number of well-trained leaders is, doubtless, the most promising element in the present situation. A beginning has been made toward the creation of a genuinely vocational type of business education; and, while little real progress has yet been made, the trend of growth will undoubtedly be in that direction. It seems clear, also, that the business education of the future will be predominantly public-school education, and that increased opportunity will be offered for upgrading by means of evening, part-time, and correspondence courses, as well as by special courses given by business concerns for their employees; and that an increasing number of well-integrated programs of preemployment business education including the whole range of office occupations and distributive activities will be provided.

Summary

The remarkable increase in enrollments in public-school departments of business education during recent years has attracted the attention of educational critics to this field of work. In too many instances the curriculums, methods, and preparation of teachers have fallen far short of the requirements of modern needs. The traditional practices of the early "business colleges" have been permitted too often to color the program of business departments. A chief weakness has been the failure to regard business education as either distinctively general education or definitely vocational education. By attempting to be both, it has, in the main, failed to be effectively either. There is a place in the public schools for "business-arts" education, as a phase of general education; and there is great need for a genuinely vocational business education. Slowly the situation is improving, and the new leadership that is appearing will doubtless bring about a much more effective program of business education of secondary grade than now prevails.

QUESTIONS AND PROBLEMS

1. How do you account for the rapid growth of business education during recent years?
2. List all the occupations you know that can properly be regarded as commercial. Indicate, in each case, the most desirable type of vocational training.
3. Outline a desirable four-year college curriculum for a teacher of high-school business-arts education.
4. Outline in detail the desirable preparation of a vocational teacher of distributive education, of office practice.
5. What items should a local business survey include to make it most useful in curriculum making for a vocational business-education program?
6. Outline a cooperative plan for business education, including the public schools and local business organizations.

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CHAPTER XI

Homemaking Education of Less Than College Grade

Early Purposes and Practices

During the years from 1880 to the close of the nineteenth century, the educational thought of the United States was much exercised over the movement to introduce "manual training" into the public schools. The movement was understood to be a protest against the traditional "bookishness" of school education, and the almost complete divorcement of school activities from the common economic life of the people. The idea that education must be practical and usable in the ordinary life of a busy people took strong hold on the educational theories of the day. Numerous arguments were presented and formulas stated that expressed the thought not only of the practical or utilitarian value of manual training but of its superior "mind-training" or disciplinary qualities. There was no marked inclination to discard the traditional school subjects but only to add much-needed new types of activities to the school program. If the truth of the theory of the new education medium for the better education of boys were granted, then by an implication not to be escaped, some appropriate type of practical-arts activity of similar character must be provided for girls. Since the universal vocation of women was homemaking, and since homemaking involved, as a major factor, the domestic activities of cooking and sewing, what could be more appropriate than teaching cooking and sewing to girls while teaching shopwork and mechanical drawing to boys? As indicated in Chapter II, the teaching of both these subjects was not unknown in the United States before 1880; but "domestic science" and "domestic art," as these subjects respectively came to be called, received their greatest impetus from the manual-training movement. They also adopted the disciplinary point of view in purpose and method, which so strongly influenced the manual-training courses of that day. An interesting illustration of this attitude is found in a description of the then new Lasell Seminary courses by a speaker before the National Education Association in 1881: "Lasell does not aim to make cooks and dressmakers, but rather to strengthen the whole texture of women's life, and to dignify the domestic industries by allying them with culture." The specific vocational value of the courses was not stressed; instead, the emphasis was placed upon the educative or disciplinary purposes. Partly because of this, and partly because of the whole atmosphere and character of the schools, the domestic-science and domestic-art courses were usually narrow in scope, dealing primarily and almost exclusively with the specialized skills of the two homemaking activities of cooking and sewing. The larger aspects of homemaking were, in the main, lost sight of; and for this reason the work was subjected to much criticism from both within and without the schools. Notwithstanding many basic weaknesses, however, this type of schoolwork prospered and spread rapidly throughout the public-school systems of the United States.

Peculiar Problem Involved

Homemaking education, at the secondary school level, has been slower than agricultural education and industrial education to differentiate between vocational and nonvocational courses.

The inherent character of the work doubtless makes such a differentiation exceptionally difficult. Yet it seems clear that courses in homemaking education for the purpose of interpreting those aspects of modern life which have to do with the problems and activities of the home are easily justifiable without reference to their vocational significance, that is, as nonvocational practical-arts courses. The complexity and significance of homemaking and the home fully warrant the maintenance of rich, extensive offerings in the secondary schools, merely as phases of general education. Both homemaking education of this sort and vocational homemaking would be made more effective if a clear definition were set up and maintained throughout the public schools. It is with the specifically *vocational* phase of the field that the remainder of this chapter is concerned.

As vocational education, homemaking, or home economics, becomes extremely complex. All types of homes involve numerous homemaking problems of essentially different character. There are economic problems, social problems, health problems, and aesthetic problems. A genuinely effective scheme of vocational training must include all these phases of the occupation of homemaker. Then, there are numerous types of homes, differing in both economic and cultural factors. And further to complicate the situation, the home is clearly in a transition stage, with much confusion existing with reference to the direction, or directions, of change. It seems clear, also, that homemaking is basically an art, almost wholly dependent for its results upon the personality and individual characters of the homemaker. Hence, the problem of homemaking education presents some of the greatest difficulties in the whole range of vocational education. In final analysis, as a school problem, it seems to resolve itself to the subsidiary questions: What should be taught in the schools? To whom should it be taught? When, in the life of an individual, should the teaching occur? Who should teach it? Perhaps the easiest way to examine the whole problem is to consider these questions consecutively.

What Should Be Taught in the Schools?

If the formula "The work of the schools is residual" be applied to homemaking education, the answer to the question "What should be taught in the schools?" becomes quite simple: "Teach those phases of homemaking that the girl doesn't learn elsewhere." But, since the amounts of skill and knowledge acquired elsewhere vary from nothing to almost complete preparation, the answer obviously cannot be so simple. Nor is it possible to assume an "average" condition that can be met adequately, since there is no such thing. Perhaps the best procedure is to ascertain the home background conditions of the majority of the girls in any given school and plan the homemaking courses to meet the needs of such girls as fully as possible. But what are the needs? It is doubtless impossible to give a satisfactory answer to this question; but there is justification for the assumption that most of the girls in a given school will be called on to make and conduct homes not greatly different, in general character, from those in which they now live. Hence it is perhaps safe to assume that the needs of a girl can best be met by training her to conduct, with skill and efficiency, the type of home in which she now lives. If this be a sound assumption, the first task of vocational-homemaking directors and teachers is to determine from firsthand contacts the sort of home from which the greatest number of their students come. The next step is to analyze the skills, related technical knowledge, and aesthetic and social understanding a person needs to be a high-grade homemaker in such a home. These lists of skills, abilities and facts can then be arranged in orderly courses of instruction. To be most effective all possible provision should be made for adjustment to special individual needs. If such individual instruction sheets as are used in vocational-industrial education were adopted by vocational homemaking education, the desirable flexibility could easily be obtained. It is highly questionable whether the theoretical science-laboratory type of course is of great value in *vocational* homemaking courses. Success in the vocation depends, in large degree, not on scientific knowledge but on desirable attitudes and habits of work and on manual skill. It depends also, in no small degree, on good judgment coupled with a sound (but not elaborate) knowledge of both general and domestic economics.

The failure to separate the courses primarily valuable as general education from those with the sole purpose of training girls for the specific occupation of homemaking has led, in many instances, to an overemphasis on the scientific and otherwise "learned" aspects of the general field of home economics, at the expense of repetitive training in manual skill and the learning of the important common facts having to do with the daily activities of homemaking. In vocational homemaking, skill and efficiency are unquestionably more needed than a knowledge of the scientific reasons for doing work in any given manner. Scientific knowledge is desirable but not necessary for successful homemaking and hence should be given a secondary place in the strictly vocational courses. It is unreasonable to suppose that any but a very few homes will be run on a higher level of intelligence than the great majority of the mechanical trades and other occupations of the same level. To think of vocational homemaking education in such terms, rather than in terms of high-school and college credits, will greatly affect the offerings in this field. Obviously, there are other aspects of successful homemaking than skills and related knowledge. Attitudes toward life, appreciation of its profounder meanings, a disposition to fair play, a willingness to give as well as to take, the spirit of unselfish service, temperamental qualities, etc.—all are significant factors. Can the school contribute to the acquisition and cultivation of any such traits or qualities? Insofar as real knowledge can be acquired under school conditions and attitudes assumed as a result of imitation and indirect influence of contact with associates, much can be contributed by the schools. Certainly, the school should make every reasonable effort to build up the personality traits that, in last analysis, are the basic factors in homemaking. Perhaps the personality of a teacher who has been a successful homemaker is one important element in this aspect of homemaking education.

To Whom Should It Be Taught?

The question of the age at which vocational education should begin has always been difficult to answer. Perhaps there can be no general answer. Usually it has been assumed that anyone less than sixteen years of age is too young to begin trying to learn a vocation; but this is only an arbitrary determination, with little more than fairly general agreement to support it. Clearly there are factors other than age that play a large part in the problem. Previous preparation, motivation, imminence of full-responsibility participation in vocational life, and opportunity for apprenticeship are all factors involved. Since the assumption is justifiable that practically all girls will be in need of homemaking education, previous preparation is important chiefly in determining the character of the work offered and not in determining whether or not work will be offered. But motivation is of great significance. Until a girl has a genuine desire to master the knowledge and skills of homemaking, it is questionable whether a strictly vocational course can be justified for her. Hence, to offer courses to girls who have no immediate need for them and no serious thought of a future need is an expensive and wasteful procedure. Strictly speaking, it is highly questionable whether such courses properly can be called vocational. Motivation usually is affected chiefly by the imminence of vocational participation. A girl who is engaged to be married is more likely to have a genuine desire for vocational homemaking training than one who merely hopes that some day, in a rather distant future, she will be married. Therefore, the question arises: Should not the strictly *vocational* courses be deferred until the student feels a genuine need for such a course? School courses, unrelated to actual practice on a real job, are little, if any, more effective in homemaking education than in trade training or agricultural education. Many girls have opportunity for a genuine apprenticeship under their mothers, but the number is decreasing; it is necessary for many to get their practice only in attempting to carry on homemaking after their marriage. Thus the problem approaches very closely the condition in industrial education, namely, that the most important school vocational education is that given on a part-time basis to those actually engaged in the vocation. It seems not unreasonable to say, then, that vocational homemaking education is most effective when it is given to engaged girls who live at home and participate in the work of the home, or when it is given on a part-time basis to married girls and women. If such work is built upon well-organized practical-arts courses in home economics, it doubtless will be much more effective.

But, in addition to girls who are beginning full-responsibility practice of the vocation, there are others who need training. There are housewives of several years' experience who are in great need of special help with particular phases of their work. Their needs vary widely and touch every aspect of homemaking. They reach into almost every division of organized education, but they lie chiefly within the limits of the offerings of the vocational homemaking departments of the schools. Doubtless, the most effective means of serving the great multitude of older homemakers is the short-unit course, given through part-time day classes, evening classes, or through correspondence and extramural courses. There is clearly great need for intensive, short, practical courses for experienced housewives; and it seems equally clear that it is the duty of the public schools to provide such courses.

Training for Family Living

The field of homemaking education has been expanding in the range of its subject matter almost continuously from the beginning of its history as a school enterprise. Like the other areas of vocational education, it must be responsive to changes in the vocation for which it prepares its pupils. The earlier "domestic science" and "domestic art" were chiefly concerned with skills in cooking and sewing, but they soon began to include the applications of science to these areas and, as a result, developed courses in nutrition and textiles. The inevitable process of enlargement of scope has continued to the present and must continue in the future. Today rapid and revolutionary social changes and the consequent acute problems resulting are forcing new areas of study into the field of homemaking education. Among these problems perhaps the most significant is what is usually referred to as "family living." The complexities of contemporaneous economic and social life are producing alarming increases, year by year, in the divorce rate, in child delinquency, in crime, in excessive drinking of alcoholic beverages by both youth and adults, in a variety of serious mental disorders, and in much discontent and unhappiness. These outcomes have produced a growing demand for training by the school in successful family living. A school activity of such complexity must, of necessity, develop slowly.

The old educational problems, (1) how to provide such training, (2) when and where to stress it in the school program, and (3) who should conduct the instruction and training, are involved in acute form. Everyone who thinks socially, however, is convinced that such education and training must be provided by the schools, and that probably it should begin in the elementary grades for both boys and girls, should continue throughout the secondary-school period, and should be available to out-of-school youth and adults through evening classes and other appropriate means. It is also rather generally agreed that while training for family living is in part the responsibility of several areas of the school program, it is primarily the function of the homemaking-education department. Before it can be successfully dealt with there, the teacher-training institutions must provide appropriate training for homemaking teachers, and teachers must be selected with their ability to deal with such a problem as a major consideration.

Practically the whole gamut of family and social relationships of the individual are involved in the problem of developing effective instruction and training in family living. It is fully realized that for the young, at least, both instruction and training are involved. Mere instruction is futile in preparation for successful family living. Furthermore, the undertaking involves relationships that are so fundamental and personal in character, involving attitudes and behavior patterns, that the obstacles to success seem almost insuperable. But the school must attack the problem regardless of its seemingly insurmountable difficulties. The whole range of relationships between the family and the individual child, between individual members of the family, boy-and-girl relationships, sex knowledge and behavior, recreation activities, self-discipline, parental discipline of children, social life in the community, preparation for marriage, husband-and-wife relationship, and the like, are all involved. How much the school can do to aid in such matters, what sort of school experiences and activities are most effective, and what kinds of teacher are needed to conduct such programs of instruction and training are problems that must be solved if any program of education for family living is to succeed. No more important or more challenging undertaking has been attempted by homemaking education in the schools than this, and the results in any community are far-reaching whether the program results in failure or success.

Who Should Teach?

The selection of teachers of vocational homemaking is one of the most important factors in an effective program. To the present, the basis of selection seemingly has been one foreign to the essential conditions. In the selection of teachers of other vocations, successful "practical" experience is the first consideration. In this field, however, there seems to be a disposition to choose teachers on a basis of credit-hours of college courses in home economics. Perhaps the failure to distinguish between vocational homemaking education and home economics of the nonvocational type is responsible for this condition. It is not reasonable to assume that successful homemaking education is less in need of teachers with a background of successful vocational experience than medicine, law, or the trades. A rigidly enforced requirement of successful experience would bring about a type of selection much needed in this field. The selection should be made, of course, at the entrance of teacher-training courses. Against such a provision, it has been urged that "all girls are reared in homes and therefore have had practical experience"; however, even a superficial knowledge of the home life of the great majority of girls in the United States suggests that being "reared in homes" does not necessarily imply practical experience in homemaking. It certainly is within reason to suppose that effective standards of and tests for "successful experience" could be set up. The present methods of selecting teachers are probably satisfactory for home economics of the nonvocational or general-appreciation types of courses; but for vocational homemaking education, the teacher should be able first of all to pass a "successful-experience" test.

Responsibilities Other Than Homemaking Education

Homemaking education constitutes the major responsibility of the home-economics department of the school, but there is another function it must perform that is of growing importance, namely, preparation of girls and women for wage-earning jobs in commerce and industry. These jobs vary considerably in amount and kind of training needed. For such employment as restaurant waitresses intensive short-unit part-time courses are indicated. For workers in millinery departments and garment-alteration departments of department and other apparel stores both preemployment and upgrading part-time courses are needed. For specialists in food preparation in hotels, clubs, and restaurants preemployment training is desirable, to be followed by on-the-job training and perhaps occasional part-time short courses. For saleswomen who need special knowledge of textiles evening or intensive short-unit courses seem the most desirable. There is also a growing number of semiprofessional jobs involving technical knowledge of child care, health and hygiene, dietetics, textiles and clothing that require special training of post-high-school level of less than professional grade. This latter type of training properly belongs to the thirteenth and fourteenth years of schooling and should be provided on a strictly vocational basis either in junior college or in special schools such as the "technical institute," or other such schools, designed for high-school graduates and other qualified young adults.

These types of vocational home-economics course at both the high-school and post-high-school levels have been sadly neglected in public-school programs. They are of such character that they should be provided and supervised by home-economics departments. The teachers should be persons who have had practical and successful experience in the occupations taught. Both teacher-training curriculums and certificate requirements need revision to make possible adequate preparation of the teachers of these wage-earning vocations. The courses provided for those preparing for such occupations should be based upon the same sort of occupational surveys and job analyses as are made by those engaged in vocational-industrial education. It is probable that much more of the standard junior-high-school and senior-high-school work should be pointed toward later special vocational courses for wage earners.

Trends

The general trend in homemaking education is toward a more nearly genuine vocational program. The leaders in the field are alive to the dangers involved in a too academic type of training, and are apparently making progress in an effort to meet the specific vocational needs of the girls and women responsible for the operation of the homes of the United States. Much greater care is being given to the selection of teachers, and more attention to continuing the training of teachers after they enter service. On this subject Miss Baylor said: "The trends would indicate a more careful determination in the next few years of just what contributions the teacher-training institutions can best make to the prospective teacher and what must be acquired by her through experience on the job, with an accompanying training in service. . . . Higher standards for teachers, not in terms of degrees or length of college years so much as in terms of broad experience, interest in the needs of youth and adults, faith in the function and efficacy of a vocational program in home economics are being accentuated."[1]

The effort to center attention on the practical needs of homemakers is bringing about greatly enriched course material. Instead of the too intensive and theoretical study of cooking and sewing that was formerly prevalent, the present-day program gives attention to the multitude of other skills, facts, and appreciations involved in successful homemaking. There is a marked trend toward a carefully balanced scheme of training, based upon an analytical study of the whole range of abilities, activities, and attitudes that characterize the vocation. It is increasingly recognized that homemaking involves intelligent behavior on the part of both men and women, boys and girls, and there is much evidence of increased attention to courses for boys and planned activities looking toward successful family living.

Another important trend is that of increasing the avenues of approach to the people who need training. As in other phases of vocational education, efforts are being made to reach people of all ages, economic levels, and grades of education and training. The outstanding educational gain of recent years is the schools' growing acceptance of responsibility for the education and training of the millions who have left the full-time school. Education increasingly is conceived as a great nation-wide project of offering opportunity for vocational and cultural advancement to *all* the people, whether they are enrolled in full-time schools or not. Vocational education has held a front-rank position in this effort to expand the range of effectiveness of the nation's educational systems, and homemaking education is rapidly coming to play an important part in this movement. Finally, there is growing concern for those who need specialized training for wage-earning jobs of such character that the training should be provided for in the over-all home-economics program of the public schools.

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[1] BAYLOR, ADELAIDE S., Developments and Trends in Home Economics Education, in "Objectives and Problems of Vocational Education," p. 147, McGraw-Hill Book Company, Inc., New York, 1928.

Another significant trend is the growing interest in homemaking courses for boys. These courses have been based upon the specific needs of boys both as present members of the home and as prospective partners in future homemaking as husbands. They have been extremely popular, and all indications point to important developments in the years ahead. It is not unlikely that eventually this movement may be extended upward in the school program to reach young men who are soon to be married. The same justification for stressing special offerings for girls engaged to be married exists for such offerings for young men who are soon to become husbands. Every factor in the present situation points to the growing need for such courses, both at the early high-school level and at the upper grades as well, also at the post-high-school level, either as a junior-college project or as an evening-school offering. Too long have the needs of the man for homemaking training been neglected by the schools, and this movement promises to become one of the most significant trends in modern vocational homemaking education. Thus far, this phase of homemaking education has been much less influenced by the restrictions of tradition and college-entrance requirements than have the conventional home-economics courses for girls. It has started with a realistic analysis of actual needs rather than with a conventional home-economics course.

Summary

Vocational homemaking education as a public-school enterprise grew out of the earlier domestic-science and domestic-art courses, which came into special prominence as a phase of the manual-training movement. Because of the obvious relation of cooking and sewing courses to the ordinary activities of housewives, a clear-cut distinction between courses on nonvocational or general-education basis and real vocational courses has been slow to appear. The whole field of homemaking education is greatly in need of such a distinction. There has been a growing tendency to develop courses that are strictly vocational in purpose and character, that are given to people definitely pursuing them for vocational ends, and that are taught by teachers qualified to train others in a vocation. This effort has resulted in a most commendable enrichment of course content. It also has brought an expansion of the whole program of vocational homemaking education, which definitely takes it out of the amateurish field of general appreciation courses, appropriate for young girls with no definite motivation for learning homemaking, and places it in position really to aid the millions of older girls and women who have present need for vocational training. It is increasingly concerned with the whole range of family living involving all members of the family and with preparation for wage-earning jobs.

QUESTIONS AND PROBLEMS

1. What effect is the changing character of home life likely to have on homemaking courses in the public schools?
2. List the vocational training needs of a homemaking wife of a skilled mechanic living in a city of about 25,000 population.
3. List the vocational training needs of a homemaking wife of a successful physician living in a large city.
4. In what particulars would you differentiate between a voca-

tional homemaking curriculum for a rural school and one for a school in a congested factory district of a large city?

5. In what particulars would you differentiate between a vocational homemaking curriculum of secondary grade and one of college grade?
6. To what extent should manual skills be emphasized in vocational homemaking courses?
7. Make a list of wage-earning jobs for which special training should be provided by the home-economics departments. Which are clearly of post-high-school level?
8. To what extent should boys be taught homemaking, and what phases of the work should be specially stressed in their courses?

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CHAPTER XII

Industrial Education of Less Than College Grade

Basic Factors

Since the beginning of the twentieth century the United States has become preeminently an industrial nation. Notwithstanding that it is also one of the greatest agricultural countries, its most difficult economic and social problems are outgrowths of the industrial developments of the last half-century. These problems have grown up in almost every phase of the national life, and it is difficult to point out any one of them as the most important. However, the problem of training industrial workers of less than professional grade is not the least of these problems. Some efforts were made in the early part of the nineteenth century to provide training for the skilled mechanics of the country, but until the closing years of the century the need did not become sufficiently acute to provoke effective organized efforts. With the rapid growth of industry following the Civil War the need for trained workers became so keenly felt that many attempted to find an effective substitute for the traditional form of craft apprenticeship, which was disappearing because it could not exist under the new conditions of manufacture. A plentiful supply of immigrants from those European countries that maintained effective systems of industrial education alleviated the difficulty of industry for a time, but the ever-increasing demand for trained workers and the constantly changing character of manufacture soon brought to the fore again the need for a policy pertaining to the preparation of youth for work in the industries. At the same time, the efforts of educators to make the schools more democratic and more responsive to the needs of all classes incited a general interest in the possibilities of expanding the activities of the schools to include industrial education.

During the earlier years of this agitation many experiments were tried. Some produced permanent results for industrial education, some were diverted to other aspects of the national scheme of universal education, and some were failures. The most serious efforts, which resulted in permanent institutions or methods of dealing with the problem of industrial training, were those in which attempts were made to train for the skilled trades. It was not until a much later period that educational and industrial leaders realized that the skilled worker is not the only one needing training. Out of these earlier efforts, however, came the modern trade school and the full-time trade classes in the high school. These and other experiments led to the needed experience and knowledge that are now making possible the rapidly developing schemes of industrial education found in all the industrial centers of the nation. Out of the many efforts to solve the problem certain basic conditions have emerged for future guidance: These seem to be: (1) different grades of workers require different types of schools; (2) some part of the training given must be had in industry while the worker is engaged in actual production; (3) any training offered must be planned and directed as industrial education, and not merely as a by-product of production; and (4) no single agency can be as effective as two or more cooperating in the training program. These conditions imply two important characteristics of any effective program of industrial education, namely, (1) it must be broadly conceived; and (2) there must be genuine cooperation among those concerned, particularly between industry and the schools.

Groups Needing Training

Throughout history before the factory era there were at most but three grades of industrial workers: masters, journeymen, and apprentices. Modern industry uses every grade of worker, from the lowest grade of the unskilled to the highest type of technical expert. The numerous groups offer many new personnel problems to the manufacturing field, and to industrial education they present a most complex situation. The introduction of power machinery in manufacturing has brought amazing changes in the functions of industrial groups. Perhaps the most striking of such changes is in the functions of the highly skilled and the unskilled. Under the handicraft system, all production was the work of the skilled mechanic, and it is probable that the upkeep of equipment was done largely by helpers or apprentices. Today in the factory most of the production is performed by the unskilled and semiskilled, while the skilled worker is confined chiefly to the maintenance of equipment. The development of manufacturing machinery has, in a large measure, eliminated the necessity for hand skill in production, but the progressive complexity and perfection of such machinery continually increases the need for highly skilled workers to adjust, repair, and "tool" it. Thus, while the proportion of low-grade workers is greater than ever before, the actual number of skilled workers is greater also.

The importance of the work in industry of the modern unskilled and semiskilled workers and the value of both the materials and the machines with which they work have caused employers to realize that such workers must be trained. The need for training skilled mechanics and technical workers of all grades is so obvious that it has usually been recognized since the beginning of the modern factory period. The need for training machine operators and other low-grade workers has been realized by employers for only a few years, and only the most progressive manufacturers and the large plants make adequate provision at the present time for their training. However, the experiences of industry during two world wars clearly demonstrated the need for effective training of all grades of workers, and there is a growing tendency toward a general practice of training workers of all grades.

Another industrial group much in need of training and long neglected in training programs is the minor executive, particularly the foreman. Almost invariably he is a promoted mechanic, and the assumption has been that he is therefore well qualified for his duties. The stress during the world wars clearly demonstrated, however, that foremen greatly need something more than experience as mechanics. As a result of these demonstrations and the consequent development of effective foreman-training techniques, foreman training is now recognized as an important aspect of all progressive factory training schemes and as a function of public-school industrial education.

It appears, then, that modern industry finds need for training (1) unskilled workers, (2) semiskilled operators, (3) skilled mechanics, (4) foremen, (5) junior technical workers, (6) engineers and other high-grade technical workers, and (7) higher executives. The obvious differences among the duties and requirements of these seven grades and types of industrial occupations clearly indicate the complexity of the problem of providing adequate training for those engaged in modern industry. The last two grades of workers belong to the group commonly designated as "college grade," and their training will not be discussed in this chapter.

The Unskilled Worker

The unskilled worker plays an important part in modern industrial production. His function is to perform the manual work requiring neither great skill nor technical knowledge. He needs endurance always, dexterity often, and a small degree of judgment sometimes. The work he does varies with the industry, but in all cases it is either perfectly standardized or so simple that he needs merely to be told to perform it. Still, some training is of value. In many processes classed as unskilled, both time and energy can be saved by doing work in some better, or the best, way. The unskilled is not the sort of worker to hit on this way of doing, except by chance. Hence it is to the advantage of both employer and employee that the simple, brief training necessary for efficient performance of work be given. In addition, the rules of safety and the other regulations designed to promote efficient plant operation need to be taught to the unskilled as well as to the other workers. The short time required for such instruction and training, on the first day of a worker's employment, would doubtless reduce much of the unrest commonly found among the unskilled, would reduce accidents, and would save time, energy, and material. The usual training comes only from trial-and-error procedures and from the commands of foremen, who often think almost wholly in terms of production. Perhaps the most effective way to provide the needed training is through foremanship training; but undoubtedly employers could also accomplish much by an intelligent effort better to induct their unskilled employees, through placing them under a qualified instructor for the first few hours of their employment. In some cases, a period of one hour under the direction of a person with the point of view of a teacher would be of great benefit.

The Semiskilled Worker

In many industries the actual production of manufactured articles is performed almost wholly by the semiskilled. These are workers who operate machines requiring a little knowledge and a few specialized skills, or who perform other tasks with a like requirement of knowledge and skill. No extended training is needed, but a short period of instruction and practice is necessary. The common method of "breaking in" the semiskilled worker is to place him next to an experienced worker, with the expectation that by imitation, an occasional question or word of instruction, and the more or less impatient directions of the foreman, he will in time pick up the necessary knowledge and skill. The unsatisfactory character of this procedure is evident. The blundering, nervous beginner is easily discouraged, a fact that constitutes a very large factor in the huge turnover costs in American industry; besides, he wastes material, injures tools, and retards production schedules. Here again, a foreman trained to teach is of great value, but his value is greatly enhanced when the new worker is a graduate of a short, carefully conducted period of instruction provided at the entrance to employment. Such instruction, formerly known as "vestibule training," should be given in a room apart from the production floor and by a teacher who not only has worked in the factory but knows how to teach. In this vestibule course, the needed skills and technical facts should be thoroughly learned, the general plant regulations understood, and safety rules mastered. In addition, some knowledge should be acquired of the character and economic importance of the finished product on which the employee is to work. This can easily be taught by films or slides, or by an excursion through the plant, together with interesting instruction by the teacher. This vestibule training can be accomplished in a few hours, in some cases, and rarely need extend beyond two or three days. The duration of the period, of course, depends on the nature of the work to be done and the general character of the plant and product. Wisely conducted vestibule training almost invariably reduces turnover because it robs the beginner of the fear, awkwardness, and ignorance that commonly make for dissatisfaction and restlessness. The cost of such instruction is so small that the slowness of its growth in America is difficult to understand.

The Skilled Mechanic

The skilled mechanic needs more skill and technical knowledge today than ever before. The degree of accuracy of work done and the extreme complexity of processes performed by modern production machinery require the utmost skill of the one who assembles, adjusts, and repairs it. The same factors also necessitate much technical knowledge. Industry has too much capital invested in machines to tolerate their idleness for any but the briefest possible periods, when repairs or adjustments are needed. Hence the skilled mechanics of the factory must be experts. Besides the workers so engaged, there are the toolmakers who produce the accurately shaped tools by means of which the machines perform their processes. This work requires a high type of mechanical skill and careful training. Then there are the electricians, who maintain the power lines, generators, motors, and other electrical equipment; the millwrights, who install machines, make repairs on buildings, and do the many skilled jobs needed about a manufacturing plant that do not belong specifically to specialized trades; the steam fitters, who install and maintain steam lines; and the power-plant engineers, who operate the power units. All these men must be highly skilled and have considerable technical knowledge.

Outside the factory industries are the many "custom" trades, such as those of the building industry, employing many skilled workers. In this industry the relative positions in production of the skilled and the semiskilled have not changed through the centuries. Here, as in the repair trades, production is still the work of the skilled mechanic, though parts of buildings increasingly are being manufactured in factories and merely assembled and installed on the construction job; however, the carpenter, the bricklayer, the stonecutter, the tiler, the roofer, the sheet-metal worker, the plumber, the steam fitter, the house wirer, the painter, the plasterer, the paperhanger, and the cement finisher are all skilled mechanics needing careful training.

In all the skilled trades the common method of training is a so-called apprenticeship. Rarely is a genuine apprenticeship found. The process that passes for apprenticeship is usually a loosely conducted "helper" arrangement, whereby a boy is employed as a helper, and after a few years is recognized as a journeyman. While it is true that some trade unions maintain a more or less carefully supervised apprenticeship scheme, the situation generally is quite chaotic, and young men are accepted as journeymen with all degrees of proficiency and experience. Much improvement has been made in this situation in recent years, however, and there is a strong tendency toward the universal development of well-organized apprentice-training programs for the skilled trades.

Several means involving schoolwork have been used to prepare young people for the skilled trades. One of these is the full-time unit-trade school, a trade school in which certain trades are taught by means of courses of study and work running two or three years. For boys and girls who are financially able to attend such courses for a period of years these schools are most valuable; and their graduates enter industry with a foundation of knowledge and skill possessed by few mechanics. The full-time unit-trade classes in public-school industrial-education departments are growing rapidly under the stimulus of Federal aid, and it is probable that these classes will find an increasingly important place in programs of industrial education. A much more popular type of training, however, is the part-time trade extension class. This is a class organized in a school for the purpose of extending the trade training of the young people employed as apprentices. Such classes operate either under state part-time school laws or under special agreements among the employers, the unions, and the schools. In all cases, the youth works at his trade as helper, or apprentice, all week except the four, six, or eight hours agreed on, or required by law, for school attendance. In school he is taught by trade teachers of long trade experience and related-subjects teachers familiar with the related-subjects needs of the trade. His schoolwork consists chiefly of those facts and skills he is unable effectively to acquire while serving as an apprentice. The effort is made to coordinate the schoolwork with that being done in employment, so as to make the total experience of the youth a definitely educative process.

This scheme of industrial education is highly effective and, in its various forms, is rather widely used.

Another device for the training of skilled mechanics is the cooperative part-time class. It has, however, found only a limited use, and usually contemplates preparation for ultimate promotion of the student workers to positions above wage earning. In its usual form, it provides for work in industry and work in school in alternate weeks, fortnights, or months, as the case may be. While the schoolwork is related in a general way to the work done in industry, it is not specifically coordinated to the same extent as in the part-time trade extension courses. To the extent the two phases of training work are coordinated, the scheme is excellent.

One other means of training skilled mechanics is the corporation school. This is a trade school conducted within an industrial plant. It may be either a full-time or part-time school. Usually such schools are organized on a part-time basis, that is, the young people are apprenticed to the corporation for a period of years and contract to work in the plant as regular apprentices for an agreed number of hours per week. Various inducements, such as increased pay and bonuses, are used to encourage completion of the apprenticeship. This scheme is used in many large manufacturing plants and has proved very satisfactory. The schoolwork usually consists of related technical subjects, advanced work in mechanical processes, and some work in civics and plant policies. From the standpoint of the industries providing such training, this device is highly effective; but the narrowness of many of the curriculums and the perfectly natural tendency to inculcate the point of view of the plant management in presenting fundamental questions of economic relations expose it to criticism as a means of education in a democracy.

The Foreman

During the two world wars, industry was suddenly confronted with the problem of breaking in large numbers of new workers, and for the first time the teaching function of the factory foreman became widely recognized. Foremen have traditionally been regarded as man-drivers, whose sole duty is production; but the pressure of war requirements for speed and the need for rapid learning of new processes led to a realization of the importance of efficiency in personnel management as a factor in production. Since the First World War much attention has been given to the problem of the proper training of foremen. The foreman needs to know more not only about company policies and efficient production methods but also about how to deal effectively with the human factor in production. His task involves the efficient ordering of materials, equipment, and processes, the handling of records and reports, and the training and direction of the workers under his authority. Because of the social and educational background of the people usually chosen for foremanship duties, the problem of the training and management of employees seems to be the most difficult for a foreman to solve. Hence, much emphasis is placed on this phase of foremanship work in foreman-training programs. Practice has evolved the conference method as the most satisfactory for the training of foremen. The most common procedure is to organize groups of foremen within a plant and give them an intensive course, extending over a period of several weeks. The course is usually conducted by a person experienced in foreman training, who meets the group once or twice a week at a suitable place in the plant. He acts as chairman and guide in a series of planned discussions dealing with the daily problems of foremen. Both production and personnel problems are discussed, but the chief effort of the director of the course is to lead the foremen to understand the personnel and training aspects of their work. The director of these courses is sometimes an official of the corporation operating the plant, but often he is a representative of the industrial-education department of the public schools. This work has had a large growth in recent years and promises to play an increasingly important part in all city and state programs of industrial education. It provides a highly effective means of training the unskilled and semiskilled workers in industry.

The Technical Worker

Modern industry makes large use of a type of worker variously known as the "noncommissioned officer of industry," the "junior engineer," and the "technical worker of less than engineering rank." His grade is above that of the skilled mechanic but below the engineer. Strictly speaking, the foreman belongs to this grade, but his status is so definitely specialized that he is usually considered as offering a distinct training problem. The "noncommissioned" grade includes a group of workers who have need for a broad technical training and a general education far beyond that of the skilled mechanic. In this grade are included draftsmen, inspectors, salesmen, estimators, installation specialists, demonstrators, laboratory assistants, and minor executives whose duties require technical training. Often such workers are promoted from the ranks, but increasingly they are being drawn from the technical high schools and the schools of less than senior-college grade. The technical schools of secondary and post-high-school grades seem admirably fitted to equip young people for such positions in industry. The general education and the courses in science that accompany the technical and mechanical work in these schools give exactly the type of preparation needed. Industry, of course, supplements the school training of these workers with special adjustment courses designed to adjust them to the specialized tasks required of them. Such adjustment courses are necessary for all technical workers above the grade of skilled mechanic to enable the school-trained worker to apply his training to the specific conditions presented by any given plant. There seems to be need for greatly enlarged facilities for such training.

Other sources of supply of technical workers of less than engineering grade are the evening schools, the correspondence schools, and the first years of the engineering college. It is probable, in a democratic country, that no one type of school can become the sole means of preparing persons for any given occupation; but certain schools inevitably become especially adapted to particular needs, and it seems clear that the post-high-school grade of technical school comes nearest to filling the particular needs of one who is to engage in this grade of industrial work.

Trends in Industrial Education

Changes in industrial education have occurred so rapidly and have been so numerous since the beginning of a definite industrial-education movement in the United States that specific trends are difficult to define. Perhaps the most obvious tendency is the continuous and marked increase in the number of schools and classes offering opportunity for industrial training. The expansion of the field has been very great since 1918, the year in which the Smith-Hughes Act became effective. Growth has been marked, since that year, in every type of school or class affected by Federal aid. The growth of part-time trade extension and evening classes has been particularly notable. The full-time trade classes have also shown steady increases since 1918, and there has been greatly increased activity among industrial corporations in the development of training programs. The general interest in industrial education, created by war needs during the two world wars, has been maintained to a remarkable degree, and there are no indications of slackening in the expansion of industrial education all along the line.

Another tendency is the growing conviction that part-time trade extension classes most effectively serve the purposes of the larger number of those persons who would become skilled industrial workers. Other types of class have their places in the national scheme of industrial education, but these classes seem to be the ones most in harmony with modern industrial conditions. As early as 1928 the Federal Board for Vocational Education reported to Congress: "It is becoming generally recognized that evening and part-time classes are probably the most efficient forms of trade and industrial education; hence, the distinct rise in evening courses and in part-time courses, taken with the merely normal increase in all-day schools, may be regarded as indicating an improvement in the efficiency of the trade and industrial program."[1] Nearly all corporation schools operate on part-time basis; and the correspondence schools, with their thousands of industrial students, may properly be classed as schools offering part-time instruction. The scheme whereby one may work for wages at an industrial occupation and give part of his time to the study, under tuition, of his vocation promises much for the future as a means of industrial education.

A third tendency is the increased effort to develop cooperative programs of training, in which industry, the public schools, and labor all play parts. This tendency accounts, in large measure, for the growth in part-time schemes of industrial education, because the part-time class offers the most effective means of utilizing the cooperative effort of the three factors most concerned in all industrial education. Such cooperation usually provides all the essential characteristics of historic apprenticeship in its best form. Industry provides the job for the modern apprentice; the public school, on a part-time basis, provides instruction; and labor provides the apprentice and answers for his behavior and faithfulness. These three elements—industry, the teacher, and labor—were embodied in the medieval master mechanic; and since the three functions have been separated under the factory regime, some means of coordinating them seems necessary. That such cooperative schemes have proved remarkably effective, is probably due to the fact that they approximate such coordination.

One other tendency, which is worthy of notice, is the growing demand for teacher training in the field of industrial education. As the complexity of the problem has become more apparent, the need for teachers who not only are masters of their industrial trades but are trained to teach their trades has also become increasingly clear. Part of this trend is the steadily rising standard of certification, or other basis of employment, being maintained by school heads and state authorities for industrial teachers. This tendency probably implies more of benefit to industrial education in future years than any other.

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[1] Federal Board for Vocational Education, *Twelfth Annual Report,* p. 13, 1928.

Summary

Beginning with the erroneous concept that the whole work of industrial education consisted of training skilled mechanics, those responsible for the preparation of workers in industry have come to see that every grade of worker needs training. The realization of this fact has led to the creation of a most complex scheme of industrial education since each grade of worker requires a different type of school or class. Since the beginning of Federal aid for industrial education much progress has been made; and the present indications are that rapid growth will continue as industry grows and the popular conception of democracy expands. Of the various types of schools and classes in operation in the United States, those that seem most effective are the part-time trade extension classes. These seem best to meet the needs of modern industrial life. A marked interest in cooperative efforts among the schools, industry, and labor groups is also apparent. All the factors in the situation point to a continuous expansion of the field of industrial education in the United States.

QUESTIONS AND PROBLEMS

1. Why did early advocates of industrial education schools overlook all but the skilled workers?
2. How do you account for the ability of industry to maintain production at present-day standards, notwithstanding the inadequacy of the provisions of the country for industrial education?

3. What are the factors in the industrial situation that discourage the proper development of industrial education?
4. To what extent is it desirable and proper for a democracy to permit industry to provide industrial education unaided and unsupervised by the state?
5. Work out a comprehensive program of industrial education for a city or large town with which you are familiar.
6. Plan a comprehensive program of industrial training for a plant employing about ten thousand people and manufacturing a variety of machines and other metal products.

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CHAPTER XIII

Nonvocational Practical-arts Education and Vocational Education

Practical Arts and Human Progress

The practical arts of the race have played a major part in human progress from the beginning of history. Looking further into the dim reaches of prehistoric times, we can discern little besides the practical arts of man that tells of the laborious rise of the race toward civilization. Its stages of progress are determined and designated by the degree of man's proficiency in utilizing the materials of nature for his daily use. Man is said to have passed through the stone age, the bronze age, the iron age, and is now said to be in the machine age. There seems to have been a striking relationship between general human advancement and the development of the practical arts. As tools, weapons, utensils, and shelter were improved, physical, social, and intellectual progress seems to have resulted. With general human progress came the ability to make still better tools, weapons, utensils, and shelter. Hence, throughout the ages there appears to have existed a kind of *spiral of progress.* This same remarkable relationship of cause and effect still exists between the practical arts and human development. When a person attempts to explain the advancement of civilization to its present level, he at once thinks of the amazing progress in the practical arts as the chief factor. When he attempts to account for the remarkable development of the practical arts, he thinks of the wonderful expansion in knowledge and inventive genius that produced the development of the arts. Thus, human progress seems to be marked by alternate steps: development in the practical arts and growth in knowledge and physical well-being. Hence, to give the young a clear understanding of, and skill in, the practical arts of the race, becomes an important phase of education. With the advent of the factory and the modern city, the teaching of the practical arts becomes a school activity since home and community life no longer offer adequate opportunity for their study and practice by youth.

Educative Significance

It is important that both skill and understanding in the practical arts of the race be acquired by each generation in order that material progress may be uninterrupted. But there are two major divisions or degrees of proficiency in the practical arts necessary in effective social life today, namely, the skill and knowledge of the specialist and the skill and knowledge of the citizen not engaged in the practical arts as a vocation. The training of the specialist in these arts, clearly, is a problem of vocational education; while the training of one not vocationally so engaged is a phase of general education. For the latter the study of the practical arts becomes a means to the understanding of, and adjustment to, his physical and economic environment. The major difference between contemporaneous life and life of a hundred years ago is the difference between the stages of advancement of the practical arts of homemaking, agriculture, business, and industry, then and now. The chief problem of adjustment today is that of the control of the machines, devices, and techniques set in motion by them, to the end that progress, and not self-destruction, will be the outcome. When man develops his practical arts more rapidly than he can understand and intelligently direct their effects on his life and progress, a situation filled with danger is created. Thus it is extremely important to attempt in schools, as a phase of the general education of all, to develop an appreciation of the tools, machines, and work processes of contemporaneous life, so that all may become intelligent users of the devices, forces, and the products of this age.

It is likewise important that public opinion shall exercise intelligent group control of the economic and social forces characteristic of contemporaneous life. Hence, young people need to be taught something of the production, distribution, and application of consumable goods and services. To be genuinely intelligent about such matters, one needs firsthand experience in dealing with the materials, processes, and forces involved. Thus it appears that a broad and varied offering in the schools of practical-arts experiences is a necessary part of general education, both in order to perpetuate the basic skills involved in human progress, and in order to attain adequate environmental adjustment.[1]

Developmental Values

The nonvocational practical arts in the school curriculum have important educative values other than the consumer, informational, and environmental-adjustment values. Among them are those that have to do with the development of what Morrison called "purposeful sets of neuro-muscular coordinations which seem to have an essential place in the evolution of the individual." To become a balanced, well-rounded personality, it is necessary that the motor coordinations be well developed. The modern home is seriously deficient in facilities requisite for such development, and the schools find it increasingly necessary to provide work experiences to compensate for those which the home is no longer able to provide. To satisfy the normal urge to manipulate, to create, to beautify, and to express through purposeful activity one's ideas of how to meet felt needs is an important function of organized education and that is one of the major functions of the nonvocational practical-arts offerings of the school. This function is performed by means of the planning and orderly performance of creative tasks that result in outcomes useful and desirable from the pupil's point of view. Thus the school shop, the homemaking rooms, the school garden, the business-education rooms become important facilities for performance of an essential phase of the general education of all normal boys and girls who soon are to play their parts as intelligent, effective citizens of the community.

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[1] See Morrison, Henry C., "The Practice of Teaching in the Secondary School," Chaps. XXII and XXIII, for detailed discussion of these aspects.

There are, besides, other important educative values in the nonvocational practical-arts experiences. These have to do with socially desirable habits, attitudes, and skills. The attitudes of thoughtfulness toward fellow workers, of cooperation with the group to which one belongs, of eagerness to learn and achieve, and of meticulous honesty in work can be more easily developed through the practical-arts activities than through most of the other school experiences. Their desirability and the consequences of their absence are perfectly obvious in the industrial-arts shop, homemaking-arts laboratory, and the other practical-arts workplaces. They appear in concrete form, not as mere abstract qualities, and are therefore more easily grasped and converted into ideals by the young. Only carelessness on the part of the teacher makes probable the failure to drive home these moral values and develop the desirable attitudes.

There are also important habits that can be easily formed and generalized by means of the practical-arts experiences. The habit of planning carefully every undertaking before beginning work is one of the most important to be developed. This involves the habit of analysis into necessary steps to be taken and the arranging of the steps in a proper sequence for efficient achievement in everything one undertakes. It can be developed by training pupils through their daily practical-arts tasks and placing full responsibility upon them for the analysis and planning of every undertaking, without exception. Few school activities offer an equal opportunity for the development of this work habit; which is so important in successful living. The habit of concentrating attention upon any work being performed, of observing established safety practices, of doing accurate and speedy work, and of invariably completing any task undertaken are priceless assets in every phase of modern social and economic life. They constitute major objectives of all education. The practical-arts courses of the school are among the most effective agencies in the entire program of organized education for the development of these essential habits. The practical-arts teacher carries a heavy responsibility because of the exceptional opportunity his work affords for the development of such desirable habits.

Guidance Value

Another subsidiary value or function of the nonvocational practical-arts activities in the schools is what contemporary educational literature refers to as "guidance" or "finding" values. During recent years much emphasis has been placed on this function of practical-arts courses. The widespread interest in vocational guidance is doubtless responsible for this emphasis, and, in not a few instances, unwarranted claims for such values have been made for the practical-arts courses. It seems safe to say where intelligent instruction sets out deliberately to exploit the finding values inherent in the practical-arts activities, such values can be capitalized. Otherwise, the results in terms of guidance are likely to be meager, uncertain, or altogether lacking. Under intelligent direction, however, it is possible for boys and girls to receive much help from their practical-arts experiences toward discovering important traits of character they may possess, or in revealing their deficiencies in certain desirable traits. They can uncover special talents or aptitudes, develop latent aptitudes, and create valuable interests that can later be utilized in choosing a vocation and in winning advancement in the chosen vocation. There is such great need for help in making vocational choices that the finding values inherent in the practical-arts activities should not be neglected but rather should be carefully exploited by every legitimate means.

Vocational Training Values

In the nonvocational practical-arts activities of the schools there are also basic vocational training values. This unquestionable fact has often been neglected in the interest of the modern vocational-education movement. Leaders in that movement have felt that the failure of school authorities, generally, to discriminate clearly and sharply between those school experiences which belong quite definitely to the realm of general education and those which belong to the field of vocational education is the chief obstacle in the way of developing an adequate program of vocational education. This lack of clear differentiation, unquestionably, has retarded effective vocational-education programs in the public schools of the United States. The persistent efforts of vocational-education leaders and of leaders in the fields of nonvocational practical-arts education, together with the very definite provisions of Federal laws relating to vocational education, have brought about a much clearer understanding of the distinction between school activities that are specifically vocational in purpose and character, and those that are primarily general, or cultural, though the latter may indirectly contribute to vocational proficiency. This fact now makes possible a more careful consideration of the vocational values inherent in school activities not specifically designated as vocational education.

The nonvocational practical-arts courses, without exception, are concerned with the materials, processes, and facts of certain of the most significant groups of occupations. As now organized in the schools, they deal with the industries, the home, agriculture, and commerce. Although their primary purpose is not to train mechanics, homemakers, farmers, or commercial workers, too many thousands of boys and girls during the past fifty years have gone directly from these courses into the occupational world and immediately and directly realized large returns on this training for one successfully to deny that they possess much vocational-training value. Of course, a similar statement may be made with reference to all the school subjects; but because of the content, methods, and outlook of the nonvocational practical-arts courses they clearly have peculiar vocational-training values. Obviously, the direct values are obtained only by those who enter the vocations that such courses represent. It seems clear, however, that those entering similar or even related vocations also receive valuable vocational training. For those entering vocations not similar in content and character to the work performed in the school courses there is training value only to the extent to which common skills and methods of attacking work occur in the vocation and the school courses. These common factors are probably more numerous than is usually realized. Thus, there seems to be justification for the assertion that there are very important vocational-training values in the nonvocational practical-arts activities of the schools.

Vocational Education

Vocational education is much more easily described than nonvocational practical-arts education because it is less complex in organization and more single in purpose. Whether of college grade, of secondary-school grade, or of no school grade, vocational education has but one specific aim: to prepare for proficiency in the given vocation. A vocational course for carpenters has but one objective: to train its pupils to become carpenters. This singleness of purpose, however, nowise exempts vocational education from difficult problems. Vocational education must provide very different types of training for different grades of workers. It must operate in closest harmony with vocational life on the one hand and the schools of general education on the other. Its trainees must be carefully chosen, and degrees of specialization must be definitely provided for.

There are at least five types of training necessary in vocational education, namely, (1) the broad, elaborate training of the professional worker, (2) the thorough technical training of the subprofessional worker in the technical and scientific fields, (3) the specific training of the skilled craftsman, (4) the narrow, intensive training of the specialist in whatever field, and (5) the minute, repetitive skill-training of the routine worker. Each of these aspects of vocational education presents its peculiar problems. In each case the effectiveness of the training depends upon numerous factors not controlled by vocational education. Among these are the trainee's subsequent working environment and occupational practices; his equipment of general intelligence, knowledge, and working habits; and his moral and physical traits. Hence, effective vocational education is dependent upon a number of factors with which general education is chiefly concerned. The subsequent working conditions are controlled by the occupations and the general economic and social trends of the day. The previous preparation of trainees, however, is a matter pertaining, in large measure, to the schools of general education. Thus a vital relationship between vocational education and general education seems to exist. As an important aspect of general education, the nonvocational practical-arts courses are deeply involved in this relationship.

Nonvocational Practical Arts and the Professions

With reference to the professions it seems clear that they are merely extensions upward of the traditional practical arts of the race. The professions of expert agronomist, horticulturist, and pomologist are merely intensive extensions upward of the ancient practical art of agriculture. The vocations of electrical engineer, mechanical engineer, and architectural engineer are highly developed extensions upward of the practical arts used by the electrician, the machinist, and the builder, respectively. In like manner there is a basic kinship between the other practical arts and the corresponding professions, which suggests very strongly the value of nonvocational practical-arts courses at the secondary-school level for those preparing to enter professional schools. The characteristic project of the practical-arts work in the schools necessitates, for its successful handling, the same kind of thinking and the same qualities of character as the project that is, likewise, characteristic of the work of the professions. Thus, while the nonvocational practical-arts courses belong definitely to general education, they also make a distinctive contribution to the vocational training of those who enter professional training. They not only give basic manual skills useful both in professional preparation and in professional practice but require work attitudes and habits of thought that are characteristic of the professions to which they correspond.

The training value of the nonvocational practical-arts courses is often designated as "prevocational." This prevocational relationship between the practical-arts activities of the junior-high-school level and the subsequent training of those entering the vocations of the skilled craftsman grade is apparent. The activities of the two stages of experience differ chiefly in intensity and magnitude, and the possibility of capitalizing on the earlier schoolwork experiences immediately in the vocational training is obvious.

In the case of the subprofessional technical vocation, a different function of the nonvocational practical-arts courses appears. Throughout the vocational world this type of worker plays a most important role. The status of such a worker has never been clearly recognized except, perhaps, in the field of industrial education. In that field he is variously designated, as we have seen,[2] as "noncommissioned officer of industry," "junior engineer," or "technical worker of subengineering grade." These designations indicate workers in minor executive, supervisory, or technical positions above the grade of skilled mechanic but below that of engineering graduate. Such workers are indispensable in modern industry, and they are to be found in large numbers in any important industrial organization. They obtain the necessary preparation for their positions in various ways, but a most desirable candidate for such a position is often the graduate of the industrial-arts department of a general high school. These graduates, after an adjustment training course given by the plant, often seem to have just the type of preparation needed. Hence, in this instance, the nonvocational practical-arts work of the high school serves directly both general and vocational education. That a like vocational-training function is frequently performed by the other nonvocational practical-arts courses is undoubtedly true, notwithstanding the fact that the occupational status of the subprofessional technical worker is less clearly defined in most of the other vocational fields.

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[2] See Chap. XI.

Practical Arts and Semiskilled Vocations

For the semiskilled and the routine or unskilled worker the nonvocational practical-arts courses, when intelligently conceived and effectively developed in the upper elementary grades or junior high school, play a most important role. The gravest charge usually made against modern specialized work at the semiskilled or unskilled level is that it is wholly uninteresting and that it makes no demands on intelligence or creative purpose. That such a charge is valid cannot be questioned, and that such conditions of labor are almost intolerable to a normal mind is likewise certain. In the case of the healthy, intellectually normal worker the effects of repetitive, unintelligent labor are boredom, discontent, and probably some loss of self-respect. The extent to which this result obtains doubtless varies with the general intelligence of the individual worker. Clearly, there is no remedy for this type of work in modern economic life; therefore, if the condition of the worker is ameliorated, it must be through changing the effects of the work on the worker. To do this, it seems to be necessary to add interest and understanding to his tasks. This can be accomplished by leading him to understand something of the significance of the small part he plays in the larger work of which his task is a part. Industry occasionally has met this problem by means of a vestibule school, conducted by the plant for beginners, in which they are shown all the processes involved in the completed product and are given facts of interest about the work of the plant and the significance of each division of work. Many commercial organizations employ similar devices; however, relatively few employments afford such training, and the low-grade workers, whose natures require an intelligent attitude toward their work, must be provided for, if at all, by other agencies. Insofar as the nonvocational practical-arts courses available to future workers of this type relate definitely to the work they do after leaving school, they undoubtedly supply the knowledge of whole processes and the elementary technical insights that are desirable. The possibilities inherent in the practical-arts activities of the schools to serve this end have been generally overlooked, and should be more carefully exploited.

Selective Function of the Nonvocational Practical-arts Courses

Finally, the selective function of the nonvocational practical-arts courses, already mentioned, unquestionably contributes to the effectiveness of vocational education. Vocational education, being specific training for occupational activities, must employ processes, materials, and instructors from the occupational world outside the schoolroom. This involves relatively high costs in time, effort, and money; hence, only those who know what they want to do, and who are fit to do it, are able fully to profit from vocational education. Therefore, to the extent to which the nonvocational practical-arts courses sift out the unfit, and lead to definite vocational choice before specific vocational training begins, they contribute directly to the efficiency of vocational education.

Kinship of Nonvocational Practical Arts and Vocational Education

The practical-arts courses in the American schools were well established when the contemporary vocational education "movement" began, and the advocates of the new movement, because of the undiscriminating attitudes of educational leaders referred to in an earlier paragraph, emphatically stressed the difference between the two types of educational endeavor. This emphasis on differences led, inevitably, to antagonisms and seemed for a time to lead toward a type of competition that would result in the elimination of one or the other. Gradually, however, as the differentiation of function between the two types of practical-arts experiences came more generally to be understood, antagonism began to disappear and a clearer understanding of relationships between the two types of work became possible. That the two phases of practical-arts activities are inescapably and closely related has, all along, been apparent to the unprejudiced; and both fields of educational endeavor are now in a position frankly to acknowledge their close kinship. Without losing sight of the fact that one belongs essentially to the realm of general education and the other wholly to the field of specific vocational training, the efficiency of both can be greatly increased by carefully and appropriately relating them administratively and functionally in the national scheme of education.

Summary

The nonvocational practical-arts courses, as now conducted in the public schools of the United States, include the school subjects concerned with agriculture, commercial work, home economics, and industrial work. Among the purposes of these courses are (1) to offer opportunity for important developmental experiences denied to youth by modern life; (2) to conserve the inventive and mechanical genius of the human race, which so vitally conditions human progress; (3) to aid in making constructive and effective environmental adjustments; (4) to contribute to intelligent consumption of goods and services; and (5) to contribute to intelligent vocational choices. Specific vocational education, on the other hand, has the single purpose of training for occupational proficiency. These two phases of practical-arts education, however, have many common elements; and the practical-arts courses of elementary and secondary schools of general education, normally preceding vocational education in the career of an individual, have much to contribute to effective vocational education. As the earlier antagonistic relationship between the leadership of the two fields of practical-arts education disappears, both fields are being greatly benefited by a recognition of common factors and mutual dependence.

Standing in a strategic position between the purely academic phases of elementary and secondary education on one hand, and the definitely vocational-education agencies of society on the other, the nonvocational practical-arts courses have a unique opportunity greatly to enrich each and to contribute much to a desirable unification of a comprehensive and genuinely democratic program of education.

QUESTIONS AND PROBLEMS

1. Why were the practical arts so slow in finding a place in the program of school education?
2. Choose one of the major practical arts—such as building shelter, making clothing, and preparing food—and trace its development from primitive times to the present.
3. How do you explain the persistence of the term "vocational work" as the name for nonvocational practical-arts courses in the schools? How did this misuse of the term originate?
4. Trace briefly the history of some one nonvocational practical-arts subject in the schools of the United States.
5. Why did it seem necessary in the early years of the vocational-education movement in the United States to urge the lack of vocational-training value in the existing practical-arts courses?
6. What effect, if any, is the increasing degree of specialization in vocational life likely to have on the status of the nonvocational practical-arts courses? Will their vocational-training values become more or less prominent? Explain.

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CHAPTER XIV

Vocational Guidance and Vocational Education

Origins

Both the vocational-guidance movement and the vocational-education movement have their roots in the same soil, namely, the economic and social changes issuing from the industrial revolution and the rise of democracy. Before the advent of the "machine age," the "factory era," the "industrial civilization," that is, modern civilization, the structure of vocational life was relatively simple and stable. It consisted of well-established stratifications, graduated in harmony with fixed rules of heredity and custom. If a boy's father and family were of the nobility, there could be no question as to his occupation when he reached manhood. Likewise, the son of a servant had no problem of occupational choice to face; nor did the youth of any other class have opportunity of choice, beyond a most restricted range of possibilities. Obviously, under such conditions, vocational guidance was not recognized as a problem, and it operated automatically. It can be a problem of importance only where economic life is extremely complex, and where many possibilities of choice confront an individual at the threshold of adult vocational work. The industrial revolution, early in its career, began the seemingly endless process of dividing established vocations into many specialized occupations and of creating almost innumerable new vocations. The contemporaneous growth of democracy served gradually to destroy the walls of custom separating hereditary social classes, to open the way from low to high, and to modify the bases of social evaluation of individual worth. Traditional means of vocational training likewise became almost wholly inadequate or were completely destroyed. Hence, these two revolutionary forces, by changing the political, economic, and social structure of civilization, have given to the individual a wholly new status, which involves responsibilities traditionally assumed only by governments and social custom. Among these new responsibilities, which every normal person under the necessity of self-support has to meet, are (1) finding a place in the economic scheme of productive work, and (2) obtaining vocational training for the work he finds to do. Because of the constantly increasing complexity of economic life (expressing itself in a multitude of occupations constantly growing in number, in greater demands for efficiency, and in an intense competitive race for speed and efficiency), modern youth is confronted with a set of confusing problems that have to be solved and that few seem able successfully to solve without competent aid. It is this great need of youth that caused the contemporaneous educational movements, known respectively as vocational guidance and vocational education, to assume the places of importance they hold in educational thought. The forces that created the need for these educational endeavors are still increasing in intensity and magnitude, and the need correspondingly grows continually.

Movements Distinct and Separate

Notwithstanding that the vocational-education movement and the vocational-guidance movement were outgrowths of the same set of economic and social conditions, they have developed independently of each other along seemingly parallel lines. The early leaders in each doubtless found the task of inaugurating a nationwide educational movement a sufficiently absorbing enterprise, without attempting to inquire very far into the related activities of other groups. Looking back over the histories of these movements, one is impressed by the almost complete disregard of each by the other. The vocational-guidance movement developed out of the humanitarian efforts of Frank Parsons, who became deeply interested in the problems of those who were struggling with the problem of choosing a vocation or were dissatisfied with a choice made without sufficient knowledge. The response to his efforts indicated clearly the great need for counsel and help of all classes of people. The vocational-education movement became a nationally recognized movement as a result of the remarkably vigorous activities of the group of educators and business, industrial, and labor leaders who organized the National Society for the Promotion of Industrial Education. This society (later called the National Society for Vocational Education) continued to be the agency of expression for the vocational-education movement throughout the period of propaganda and foundation laying. Later it merged with the Vocational Education Association of the Middle West to form the American Vocational Association. Throughout this entire time the vocational-guidance movement, for the most part under an entirely different leadership, expressed its purposes and made its appeal to the nation through the National Vocational Guidance Association, which has never had any organic relationship with the American Vocational Association or its predecessors. Throughout the years during which both societies have existed there have been a few educational leaders who were active in both organizations, but the two movements have remained separate and distinct.

General Confusion of Terminology

When the inherent kinship of vocational guidance and vocational education are considered, the organic separation of their respective promotional movements becomes of more than passing interest. However, to have merged them during the propaganda periods of their growths would doubtless have resulted in an even greater confusion than now exists in the public mind with reference to them, and it is probable that neither could have had the vigorous growth each has experienced. That this would have been the result is suggested by the still common misunderstanding of the essential differences between the functions of these two educational activities. One of the most remarkable phenomena in American educational history is the persistent confusion not only of these two distinct educational movements, but of the *terms* "vocational guidance" and "vocational education." After more than twenty years of discriminating usage of these terms by informed educational leaders before 1929, in that year an article appeared in one of the leading American magazines of the better sort, which made its author, a professional writer, ridiculous by a series of misstatements of well-known facts, because he did not understand the distinction between the terms "vocational guidance" and "vocational education."[1] Such confusion of terms is by no means uncommon among students of education, and it serves continually to hinder clear thinking about both movements and to retard their progress. Students and teachers of education in colleges of education and teachers colleges can do much to promote both vocational education and vocational guidance by insisting on a discriminating use of terms; and teachers engaged in either field in the public schools seem to be under a peculiar obligation to exercise care in making clear to boards of education and school patrons the difference in function between vocational guidance and vocational education.

Close Relationship

Having indicated that these two movements in education are quite distinct in organization, leadership, and purpose, there remains to be shown, as clearly as may be, what the character of each is and, hence, what their relationship is. As stated above, the vocational-guidance movement had its inception in the efforts of Frank Parsons to aid young people through an intensive process of giving occupational information and counsel in choosing their lifework.[2] His efforts were restricted, primarily, to a brief period of helping individuals who were confronted with the necessity of a vocational choice. Early in the history of the movement, however, the inadequacy of the short-time influence became apparent, and the extreme complexity of the problem came to be realized. It is now understood that for modern youth to meet successfully the difficult problem of finding a pathway through life that will lead toward worthy achievement involves much more than a single decision made after a brief conference with a counselor. Vocational guidance involves numerous decisions at many points along the way; and to be genuinely helpful in the making of wise decisions, numerous influences must be brought to bear. Hence, the definitions of the purposes of vocational guidance have come to be strikingly comprehensive and to relate themselves closely with the other aspects of education. Meyer Bloomfield, one of the pioneers of the movement, wrote in 1915: "What is vocational guidance? Briefly it is organized common sense used to help each individual make the most of his abilities and opportunities. Vocational guidance aims to make both school and occupation help boys and girls to discover and develop their powers for service, through school programs in charge of specially trained vocational counselors in schools, and employment supervisors in the occupations. Vocational guidance is not a scheme of finding jobs; of forcing vocational decisions upon children; of naïvely adjusting human 'pegs' and 'holes'; or of narrowing the range of service open to the fit. In a word, it is clear that through thoughtful, creative sympathy, real help may be given, where help is now wanting, to thousands of perplexed youths groping through the complex conditions and demands of the twentieth century."[3] Since that definition of purposes was written, many writers have similarly expressed the aims and functions of vocational guidance; and a formal announcement in 1921 by the National Vocational Guidance Association attempted to establish a formula that would serve, for the time being, as a guide in setting up programs of guidance. After setting forth certain basic concepts, and pointing out the need for vocational guidance, the Association presented the following statement of aims:

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[1] Allen, R. D., A Reply to the Article, "The Newest Fad in Education," *Vocational Guidance Magazine,* pp. 343–346, vol. VII, No. 8, May, 1929.

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[2] Brewer, John M., "The Vocational Guidance Movement," Chap. II, The Macmillan Company, New York, 1924.

"1. The purposes of vocational guidance are:

"(*a*) To help adapt the schools to the needs of the pupils and the community, and to make sure that each child obtains the equality of opportunity which it is the duty of the public schools to provide.

"(*b*) To assist individuals in choosing, preparing for, entering upon, and making progress in occupations.

"(*c*) To spread knowledge of the problems of the occupational world and the characteristics of the common occupations.

"(*d*) To help the worker to understand his relationships to workers in his own and other occupations and to society as a whole.

"(*e*) To secure better cooperation between the school on the one hand and the various commercial, industrial, and professional pursuits on the other hand.

"(*f*) To encourage the establishment of courses of study in all institutions of learning that will harmoniously combine the cultural and practical studies.

"2. *All vocational guidance should help to fit the individual for vocational self-guidance,* and also for the cooperative solution of the problems of occupational life."[4]

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[3] BLOOMFIELD, MEYER, "Readings in Vocational Guidance," Preface, Harvard University Press, Cambridge, Mass., 1915.

[4] "The Principles of Vocational Guidance," a statement adopted by the

Clearly, then, the leaders in the vocational-guidance movement were thinking in terms of a broad educational service that confines itself to no particular day in the life of an individual or to any single agency now operative in the schools. It concerns itself with vocational education as merely one phase of the total process of aiding in "choosing, preparing for, entering upon, and making progress in occupations."

Vocational education, on the other hand, has for its purpose the training for vocational competency of those who have made at least a tentative choice of vocation. Theoretically, vocational education does not enter the situation until vocational guidance has begun to function. In theory the process of entering a lifework is begun by being subjected to effective guidance influences until a choice is made. This choice, by implication, will indicate at least the type of vocational education needed. Then the indicated vocational education is begun; and on its completion, the young person begins a more or less successful career in his chosen occupation. If this simple scheme worked out in practice, to define the relationship of vocational guidance and vocational education would involve merely pointing out the sequential order of the four steps, namely, guidance, choice, training, and induction into vocation; however, there is no such easily defined relationship between guidance and training. In the first place, as previously suggested, guidance neither is a single act nor results in a single decision that, once for all time, ends the problem for the individual. Everyone has to make several vocational choices throughout his lifetime. There is the choice of the first job and then of succeeding jobs. Promotion usually involves changing one's vocation and requires the making of a most important decision. Not only is the relationship made difficult to define by the numerous vocational choices for which one needs preparation, but in actual practice vocational education itself

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National Vocational Guidance Association in convention at Atlantic City, Feb. 25–26, 1921.

almost invariably serves as a means of vocational guidance. The only effective way for many to acquire a knowledge either of a given vocation or of their own fitness to engage in the vocation is to try it. For many, vocational education presents an economical means of trying a vocation. Thousands of young people enter vocational training every year with a sincere desire to prepare for the vocations to which the training leads, only to find, within a short time, that they had not understood the real character of the vocation; or they discover that they lack both interest and aptitude for such work. A very heavy charge against the support of professional schools is the enormous elimination of students due to this selective function of vocational education. It is questionable whether the most efficient training program possible could wholly avoid this selective outcome of vocational education. Thus it appears that both vocational guidance and vocational education operate over long spans of the lifetime of any individual; that first one and then the other is in operation; and that vocational education frequently is itself involved in producing vocational guidance. Hence, it seems clear that these two phases of education are very closely related and cannot, in fact, wholly be separated in the experience of any one. Of the functions assumed, respectively, by vocational guidance and vocational education, vocational guidance is the broader, including the other in its purposes. Hence, it appears that vocational education is often in reality a stage in the larger process of vocational guidance.

Summary

The vocational-education and vocational-guidance movements developed out of the same group of economic and social factors of modern life. Notwithstanding this fact, they have grown up as separate movements though they are constantly confused by the uninformed, both among educators and among laymen. Both movements have experienced remarkable growth in the United States and continue to expand the range and potency of their influences in American education. Though the movements remain distinct in leadership and organization, educational functions represented by each are, in fact, very clearly related. Both guidance and training operate inevitably in the life of every person; and both are in operation at frequent intervals, if not continuously, in any individual's career, whether they appear as institutional activities or as incidental life experiences. The conditions of modern civilization make increasingly important a purposive and skillfully conducted service of vocational guidance by society for each individual; and the larger program of guidance and education must include efficient schemes of vocational training for all grades and kinds of workers.

QUESTIONS AND PROBLEMS

1. How can the increasing interest in such social activities as vocational guidance, educational guidance, and personnel work be reconciled with the basic American idea of personal freedom and individualism?
2. How do you account for the growing tendency to force on the schools such parental functions as vocational guidance?
3. Work out a plan for the complete coordination of the vocational-guidance and the vocational-education activities of a large city school system.
4. By what means might it be possible to relieve vocational education of its selective or vocational-guidance outcomes?
5. How do you account for the confusion in terms and thinking concerning vocational guidance and vocational education?

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CHAPTER XV

Trends in Vocational Education of Less Than College Grade

Method of Educational Progress

The history of education rarely records a general forward movement all along the line of educational endeavor; rather does it show an overemphasis, first at one place, then at another, upon some clearly defined weakness with reformers clamoring for a change at the particular point under criticism. This microscopic method of dealing with the problems of education is in accord with the procedures involved in the growth of most human institutions; but it makes progress appear uneven and future growth uncertain. A humorous aspect of this phenomenon is that, whether attempted changes be great or small, fundamental or superficial, their advocates rarely fail to point out that the proposed reform will result in the complete solution of the major social problems of the day; however, history suggests throughout that any procedure that attempts to achieve at one stroke a comprehensive change in human affairs is doomed to failure and would probably be disastrous if successful. Thus, one may expect to find vocational education in the United States making progress point by point, with leaders rarely able to see more than one step at a time. To describe trends, therefore, in any department of social progress is in reality to describe a series of apparently unrelated movements at widely scattered points along the line of advance. A comprehensive account of the trends in the whole field of vocational education must bring into proper relationship the various emphases and movements within each division of the larger field, but only those trends will be mentioned here that are characteristic of vocational education of less than college grade. The special trends apparent in the several divisions of such vocational education have been suggested in the chapters dealing, respectively, with those divisions. It remains, therefore, to point out only those trends that seem to be common to all vocational education of secondary grade.

Increasing Number of Agencies

One of the most conspicuous tendencies in the development of vocational education is the increase in the number of means employed to meet the training needs of the people. The earlier efforts to provide vocational preparation were almost invariably confined to the establishment of full-time vocational schools, or courses. This practice, when criticized from the standpoint of modern knowledge of the problem, seems to have been the result of amazingly naïve thinking. The reasoning of the early leaders appears to have been as follows: "All occupations require skill; skill is acquired by much practice, under careful instruction; instruction is the business of schools; hence, to teach skill, we must have schools that provide extended courses of instruction." In any event, little attention was given to any but the skilled worker. Gradually it has been realized that in any field of work the highly skilled constitute a minority, and that even to provide adequately for *their* training more than one agency must be employed. The inability of the full-time school fully to meet the need of the skilled worker is now apparent, and the tendency is to organize cooperative schemes whereby the schools and the occupations concerned work together to provide the necessary vocational education. There is not merely one effective scheme of cooperative effort; hence the trend is toward an increasing number of accommodations of the activities of employing units and vocational schools. Attempts to meet varying needs have resulted in the development of numerous types of corporation school, public evening class, cooperative part-time class of several types, correspondence course, supervised apprenticeship, and school-directed home-project work. The trend clearly is in the direction of flexibility of organization and a willingness to set up any scheme or device that seems best to meet the requirements of a particular situation. With reference to the great body of workers, in all vocational fields, who are not skilled but semiskilled and unskilled, the trend is to provide, through short-unit school courses and various types of on-the-job training, whatever training they need in order to do their work efficiently and with some degree of intelligence. Thus it appears that vocational education of less than college grade has developed a marked tendency to multiply the means of providing preparation for vocational life and to set up novel agencies to meet unusual conditions whenever the need presents itself.

Trends in Curriculum Making

Another clearly defined trend in vocational education below the professional levels is that of going directly to the vocations for curriculum materials. This has resulted partly from a new educational psychology and partly from a clearer definition of the function of vocational education. The insistence of modern psychology upon the necessity for specialized training when special abilities are needed, and conversely upon the dubious character of the theory of general training, has done much to weaken faith in programs of vocational education based upon traditional theories of training. The almost complete abandonment by vocational education of all claims to importance as a means of general education and the insistence on its singleness of purpose as vocational preparation have also been effective in sending curriculum and course makers to occupational life for content material. No longer, therefore, does the course maker ask himself, "What forms of general mental discipline will best prepare one to follow this vocation?" Now he goes to the vocation and, from observation and diligent inquiry, lists the activities of those engaged in that vocation and lists, besides, the information the worker needs, together with the attitudes and traits he must have to succeed. These items make the content of the course and determine the organization of the curriculum. Not only is the content of training schemes increasingly derived from first-hand analysis of vocational practice, but standards of proficiency also are so obtained. Such traditional school standards as "perfection," "as good as can be expected of one his age," and "of passing grade" are being abandoned by vocational education. Increasingly, the standards, "production practice," "commercial standards," "trade standards," "standards of occupational life," etc., are the ones now adopted throughout the field of vocational education. These trends toward reality, so to say, toward learning by doing precisely the work that one is preparing to do as a means of livelihood, and toward setting up as standards of achievement the identical standards by which one must be judged in one's vocation, constitute two of the most significant and valuable tendencies since the beginning of the vocational-education movement.

Shift of Attention to Postemployment Period

With the growing realization of the complexity and magnitude of the problem of universal vocational education, there has come a shifting of attention from the preemployment period of life to the postemployment years. The same naïve reasoning that considered the full-time vocational school as the obvious solution of the problem of vocational education led to concentrating all effort on the training of those not yet entered upon vocational life. The inadequacy of such a program was slow in revealing itself, perhaps chiefly because of the force of the traditional conception of the school as a place for training children. The constantly growing need for training at every level and in every department of vocational life, together with the rapid changing of occupations, has made urgent a program of vocational education that provides for adults who are under the necessity of changing their vocation, for those who need upgrading in their occupations, and for those who want to prepare for promotion. These needs exist in every phase of occupational life, from the unskilled laborer to the highest rank of the learned professions. A realization of these needs has produced a very marked trend in the direction of carefully planned schemes of adult vocational education, both of the basic preparatory type and of the upgrading type. It has also become increasingly clear that few are able to "find themselves" vocationally until they have experimented for a number of years with the various occupations within the range of their capacities, and hence the majority cannot greatly profit from programs of vocational education designed only for the preemployment period of their lives. It is also evident that few remain throughout a lifetime in exactly the same work. Even the best adjusted lives make changes. Not infrequently, several different occupations are followed in succession by the most successful. In many such instances, additional training of a highly specialized character is needed. Most of the controlling factors in modern economic life point to a continuous increase in the need for postemployment types of vocational training and therefore to increasing emphasis upon this phase of vocational education.

Cooperative Schemes

One of the most promising developments of recent years in the evolution of vocational education in the United States is the marked growth of interest in cooperative programs of training. With the decline of traditional forms of apprenticeship as the chief mode of preparing for the skilled occupations, the vocational world turned to the schools to assume the burden of vocational training. Many years of experimenting were necessary to make clear the basic fact that no vocation can be completely mastered in a school. With the grasping of this fundamental idea has come the trend toward cooperative schemes of vocational education. It is now clear that only certain phases of vocational preparation can effectively be provided by a school and that the other phases can be secured only by participation in actual vocational experience. It has also become evident that the efficiency of the training program is conditioned by the sequential relationship obtaining between the school phase and the vocational-experience phase of the training. The traditional practice of the schools—to attempt to provide "cold-storage" education during the periods of childhood and youth, with the expectation that such education will be readily available in later life as it is required—is even less valuable in vocational than it ever has been in general education. Such a scheme not only is out of harmony with the best understanding of educational psychology but is wasteful of time and energy and is inconsistent with the purposes of vocational education. Vocational education is not concerned with the accumulation of facts that may have future value but is wholly intent on developing skillful and efficient practitioners of the vocations. To do this, the knowledge acquired must be immediately and vitally related to the practices it controls. This necessitates a sequential relationship among the learning of facts, the acquisition of habits of thought and attitudes, and the mastery of skills, which will properly relate them in the training experience of the learner. To do this, the school, which is chiefly valuable in teaching facts and building attitudes, must perform its functions in close harmony with the daily vocational activities of the one under training.

This understanding of the problem of vocational education has brought to the front various types of cooperative program of vocational education in all divisions of the field. This procedure is also in harmony with the trend mentioned above of placing emphasis upon the postemployment period of life. There can be little doubt of the high efficiency of the part-time method of vocational training. Its future, however, is dependent upon the willingness of the agencies involved to enter into and to maintain genuinely cooperative educational enterprises. The leadership in such cooperative programs must be assumed by the schools; it follows that the responsibility for the future of this important aspect of vocational education of less than college grade rests chiefly upon those who direct the activities of the public schools.

Range of Offerings

The early efforts to develop programs of vocational education centered on a few well-known and widely distributed occupations, and, in the main, on the larger, unspecialized occupations. During the propaganda period of growth such a policy was wise since the people generally were much more inclined to support training courses for the familiar traditional vocations than for the specialized occupations, practiced only in certain unfamiliar industries or lines of business. As vocational education has become increasingly established as a necessary phase of democratic education, a marked trend toward an increase in the number of occupations for which preparation is provided has become evident. Such a trend was inevitable, but it was remarkably tardy in showing itself. Since the First World War, however, the increase of offerings in vocational-education programs has been rapid, and the larger interest in postemployment training indicates a continued growth in the range of occupations for which training is provided. Both employers and employees are becoming increasingly aware of the economy of training under tuition and are asking for training courses for occupations that have been regarded as of such character that special preparation for them could not be acquired under instruction or that such preparation was unnecessary. The exacting demands of a prosperous people, able and willing to pay for luxuries both in goods and in services, have contributed greatly to the acceleration of the extension of vocational training in such a direction. Theater ushers, taxicab drivers, salesgirls, filing clerks, and office boys now are expected to be given preliminary courses. Firefighters, during recent years, have been able to acquire training under instruction; and interesting beginnings have been made in the development of training courses for other public servants, long neglected. The persistent trend toward specialization, the creation of totally new occupations, and the growing competition in every division of economic life, point unmistakably to a continuous and rapid increase in the range of offerings in vocational education.

Improving Teaching Technique

Another notable trend in vocational education is the improvement of its teaching techniques. The vocational teachers of an earlier day were content to make obvious modifications of the traditional academic classroom procedures in finding a method of instruction. Today, however, vocational education is creating distinct techniques based upon the character of instructional material involved, the peculiar objectives of its work, the special attitudes and needs of its pupils, and the working conditions necessary for effective instruction. The older techniques of academic class instruction are shown to have little in common with the new practices; and the results of the developments in this direction seem wholly in the interest of instructional efficiency. Informality, flexibility, and individual instruction are the characterizing features of the newer methods; and, as stated earlier, readiness to look to occupational practices and needs, rather than to a priori judgments of requirements and standards of proficiency, is the clear tendency of present-day course making. Vocational education obviously calls for flexibility of procedure and readiness to change; and, at the present time, constant and general experimentation in methods satisfies this need. Each division of the field is developing its own characteristic techniques, and there is great diversity of method within each. Probably there is a best way to teach filing clerks in a vestibule class, machinists in a full-time trade class, and poultry raisers in a part-time agricultural school; but it seems clear that there is no best method of vocational education applicable to all aspects of occupational preparation. Full appreciation of this fact will be great gain, for it will ensure vocational education against stereotyped procedures that retard progress and make for the lack of adaptability of method to material that has so often characterized general education.

Prevocational Training

Another trend is discernible in the growing interest in the preparation of children for the successful pursuit of vocational education. This trend has expressed itself in efforts both to provide effective vocational guidance and to offer school experiences designed to develop skills, methods of work, and habits of mind that underlie large groups of related occupations. Much progress in recent years has been made in developing guidance programs; and the nonvocational practical-arts courses have been greatly expanded in the direction of increasing the number of available occupational activities. Since the idea of the guidance and prevocational training values of the nonvocational practical-arts courses has gained widespread acceptance, there has been a tendency to overemphasize these purposes in such courses. It seems clear that children need preparation for vocational education, however, and it is to be expected that the prevocational emphasis, now placed chiefly, if not solely, upon the practical-arts subjects, will eventually be spread to include all the subjects of the elementary and junior-high-school years. This will mean a shifting of emphases within the subjects taught and a revolutionary change in the viewpoint and attitude of the teachers of the school work of these years. They will come to think both of course materials and of children in terms of ultimate vocational success, rather than solely in terms of preparation for more advanced academic studies. The assumption of the guidance and prevocational attitudes will not decrease any cultural value the courses of the early years may have; on the contrary, the injection into these courses of an element of such vital interest as the vocational objective supplies is likely to enhance greatly their cultural value. The tendency to prepare children for vocational education by leading them to think of their school experiences in terms of vocational life and by providing them with a variety of representative occupational activities, as in the numerous nonvocational practical-arts courses, is one of the most helpful of the trends affecting vocational education. The disposition during recent years to bring the nonvocational practical-arts activities of the schools into closer contact with the vocational-education movement is most commendable and will doubtless result in the strengthening both of general education and of vocational education.

Increasing Interest

The general increase of interest in vocational education of less than college grade constitutes the most notable trend of the vocational-education movement. Former opponents of vocational education for any but professional workers are beginning to exhibit an attitude of inquiry and to express themselves in terms of toleration, if not of sympathetic understanding. The great present need for, and the growing importance of, a program of universal vocational education are gradually taking hold on the thought of educators and others concerned with social problems. These tendencies are expressed both in the written and spoken words of leaders in many departments of modern life, and in the growth of local and state expenditures for vocational education. An examination of the reports of Federal expenditures for, and enrollments in, vocational education of less than college grade since 1918 makes very clear the remarkable growth of interest in vocational education. Likewise a review of the opinions of the most outstanding educational leaders since the middle of the nineteenth century concerning vocational education reveals one of the most revolutionary changes in educational thought in the entire history of education. In earlier years the question considered by educators was: "Shall there be vocational education in the public schools?" Today the almost universal question is how best to enlarge and strengthen the program of vocational education. The remarkable interest developed over the years is chiefly the result of significant trends in political, economic, and social thinking and of national trends that point to even greater need for, and interest in, vocational education. These trends in thinking are the direct outgrowth of the amazing developments in the political, economic, and social life of Western civilization. The rapid accumulation of knowledge during the past half-century and the ever-growing complexity of social and economic life, with the corresponding responsibilities of political life and of government, make specialized training for occupational life imperative. They also make necessary a broader and more thorough general education as a foundation for vocational education and for subsequent intelligent occupational and civic participation. The general trend toward an ever-increasing complexity of life ensures a steadily growing interest in vocational education.

New Types of Vocational School

One further trend should be mentioned because of its increasing importance in modern vocational education, namely, the movement to develop "technical institutes" and other types of advanced area vocational school. These new types of vocational school have appeared as means of supplying the long-felt need for vocational education specially designed to prepare young men and women for the many technical jobs that are of less than professional level but require a broader and higher training than is afforded by trade schools. There are numerous occupations in agriculture, business, and industry that require not only skill but considerable technical training. They constitute what are sometimes called the "noncommissioned officer" jobs of the economic world. To meet this growing need, schools of post-high-school grade but of subcollegiate type are developing. In these schools the strictly vocational motive dominates in curriculum and organization. They are sometimes designated as "technical institutes" though the same purposes may occasionally be served by strictly "terminal" curriculums in junior colleges. Whatever the final outcome of this trend may be as to name and organization, the movement for such training is rapidly gaining momentum, and every factor in the present situation suggests a considerable development of the technical institute type of school in the years ahead.

The Area Vocational School

What is sometimes called the "area vocational school" is designed to train youth and adults for all types of vocations of less than college grade. The concept of the area school developed from the obvious inability of any communities, other than the largest cities, to provide adequate facilities for vocational education. Few communities can do more than provide token programs of vocational education. Both the small number of persons wanting training in any one vocation and the impossibility of meeting the costs of a comprehensive program of vocational education keep any but the wealthiest and most populous centers from meeting the needs of its citizens. It seems clear that the only possible way to provide vocational education for all who need it is to establish large schools centrally located in larger geographic areas than the conventional school districts. In some cases the area may be a county, in populous sections of a state; in other cases the area may include a group of counties, the number depending upon the density of population and the vocational-education needs of the people. By thus broadening the base of local support it becomes financially possible to provide a flexible and adequate program. The area vocational school is conceived as one so organized that both youth and adults can be fully served through full-time, part-time, evening, slack-season, and any other type of course that may be needed. It will provide the needed instruction in English, mathematics, science, economics, citizenship, and anything else desirable for effective vocational education for the modern world. The logic of the contemporaneous situation suggests clearly the inevitable development of this type of vocational school in the United States.

The increased interest in adult education is one other indication of a more general appreciation of the great need for vocational education for all types of occupations and for all the people. Educators have been slow to realize the significance of the vocational-education movement for the training of those entering nonprofessional occupations, but there can be no doubt that a marked change of attitude has occurred. There is good reason to hope that before many more years have passed, there will be universal acceptance of the doctrine that no education is truly democratic if it fails to make as complete provision for vocational education as for general education.

Summary

Moving forward along a line characterized by breaks and unevenness, the movement for vocational education of less than college grade has nevertheless made continuous and marked progress since 1900. The changes in emphasis within the various divisions of the field have been many, but the field as a whole reveals certain well-defined trends. Among the more significant of these are (1) the increase in the number of means employed to solve training problems; (2) the turning to the occupations for course material and standards of achievement; (3) the shift of emphasis from the preemployment years of life to the post-employment years; (4) the increasing attention to cooperative programs of training; (5) the extension of the range of vocations for which preparation under tuition is provided; (6) the development of appropriate and adaptable methods of instruction in each field and, when desirable, in each course; (7) the emphasis upon prevocational training; (8) the development of post-high-school vocational schools and area schools; and (9) the general increase in interest in really democratic education. It must be remembered, however, that trends may indicate only beginnings of movement in certain directions. The great undertaking of making education in the United States more nearly democratic by providing opportunities for universal vocational education is far from complete accomplishment. The great body of people who need training is still untouched by any efforts yet made. The task is even more difficult than that of providing universal general education, and it presents a challenge worthy of the highest type of leadership the nation can produce.

QUESTIONS AND PROBLEMS

1. Trace the changes in general psychological theory that have affected the history of vocational education during the past century.
2. Show wherein the changes in vocational education have been in harmony with economic and political changes in the United States since 1800.
3. To what extent have the developments in the teaching techniques of vocational education affected general-education methods?
4. What developments in vocational-education methods seem to be valuable as suggestions for further improvements in general-education methods?
5. In what respects is the trend to emphasize postemployment training likely to affect the present organization of the public schools?
6. What is the justification for technical institutes?
7. Why does the development of area vocational schools seem inevitable in the United States?

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CHAPTER XVI

Vocational Education of College Grade

Extent and Place in Higher Education

Vocational education is the chief business of the university. Historically, universities were conducted primarily to train professors, physicians, theologians, and lawyers. In the United States the early academic or literary colleges, which were designed chiefly for the general education of young men preparing themselves for the Christian ministry, became the centers around which professional schools developed; and together these groups constituted the early American universities. The newer universities, notably the state universities, have been from the beginning essentially vocational schools. A counterpart of the earlier literary college is included in the organization to provide opportunity for a liberal education and to function as a service department for the vocational divisions. The number of vocational schools in the universities has rapidly increased since the beginning of the land-grant colleges, and their growth in enrollment has been remarkable. That the chief function of the university is vocational education seems to be taken for granted by the American people generally; and there is small room for doubt that the primary purpose of the great majority of university students is specific vocational preparation. The field of vocational education of college grade, then, is not an incidental aspect of higher education, but is one of the major problems of education of college rank. The problems confronting the higher vocational schools are many and difficult to solve, but they are basically those of vocational rather than cultural, or general, education, and can be solved to the extent to which the fundamentals of successful vocational training are understood and put into practice. A failure clearly to conceive of the professional college as a vocational school is one of the chief causes of the present confusion in the field of education for the professions.

Characteristic Development

Vocational education of college grade passed through the familiar evolution of all vocational education, namely, (1) some form of apprentice training, (2) a private school growing up around the instruction, to his apprentices, of some experienced practitioner, and (3) the establishment of a vocational school. The earlier of these stages of growth, however, did not disappear with the rise of a later stage; hence, each new type of training has had to make its place in the scheme of vocational education in continuous competition with an earlier type. This fact has determined, in no small degree, the character and methods of vocational schools of professional rank. The early schools were small, poorly supported, and often regarded with grave suspicion by the influential members of the professions concerned. The idea that a school could properly undertake to do other than "train the mind, develop the character, and strengthen the will" was slow in finding general acceptance. Consequently, the early professional schools in the United States were limited in their efforts to the "basic" or "fundamental" aspects of a profession. The actual study of the technical material and the practice of the vocation were provided subsequently, as apprenticeship training, by the profession itself.

The entrance to the older professions, to the present day, has been largely, when not wholly, in the hands of the professions; and therefore the professions have been able to dominate the work of the schools. This is notably true of law and medicine in all English-speaking countries. The professions, acting in the spirit of the old trade guilds, have been greatly concerned with the maintenance of their traditions and seldom have been tolerant of innovations either in method or in content in the professional schools. Since the schools have been concerned primarily with preparing students to meet the tests for entrance to the professions, they have tried to meet the desires of the members of the professions. Gradually, however, the schools have become strong and able, increasingly, to dictate their own courses and methods. This spirit of independence has led to an effort to give complete preparation for vocational practice in the schools. This situation has produced most of the contemporary problems of vocational education of college grade. So long as a clear-cut division of the training functions of the schools and of the practicing professions, respectively, was recognized, the schools were not free to advance beyond current practice or theory. Complete freedom from the influence of the professions is neither possible nor desirable, but progress obviously is conditioned by the possession of sufficient freedom to propose new theories and to experiment with new methods of procedure. The professional schools are increasingly emerging as leaders of thought and practice, rather than as mere conservators of professional traditions. The modern schools of theology and of education are perhaps the most notable examples of this new status, toward which all professional schools seem to be moving. The assumption of leadership involves many difficulties of administration and procedure unknown to these schools during their earlier stages of development, when they were charged merely with reproducing practice under the dictation of practitioners. Increasingly the schools are looked to by the professions for leadership in inaugurating and developing the research need for progress.

Nonprogressive Influences

The early professional schools in the United States made up their faculties from the practicing members of the professions. These teachers were almost universally employed on a part-time basis; that is, they continued the practice of their professions, and lectured a few hours per day, or per week, in the school. This scheme is still quite common in medical and dental schools and is occasionally found in law schools, but it is rare in the other professional fields. The effects of such a scheme are likely to be (1) the minimizing of the importance of teaching as a definite process requiring special training and close attention, and (2) the making of the schools places where the ideas, methods, and traditions of the professions are transmitted, rather than places where new truth is sought or experiments with new methods conducted. In such a scheme the tendency is to hold the profession to the level of a manual trade, where traditional skills and processes are faithfully reproduced by each succeeding generation of learners. Such a connection with the practicing profession has made, inevitably, for a degree of conservatism that has seriously retarded progress all along the line. There are indications, however, of a marked change in the character and status of these schools. An interesting illustration of this is found in the growing divergence of viewpoints between law professors and the lawyers of the bar and bench. The professors, who are rapidly attaining the status of a distinct division of the profession, are thinking increasingly in terms of contemporary social problems and of social, economic, and political trends in their teaching of the law; whereas the bar and bench in large part continue, with amazing obstinacy, to ignore social evolution. Such a cleavage between the members of a profession who teach and those who engage in practice is an inevitable outcome of the development of a really professional group of professors. The engineering schools achieved this division early in their growth, as did nearly all the new professions. The historic professions of theology, medicine, and law are not yet fully divided in this respect, but the trend seems to be in that direction.

Increasing Length of Preparation Period

As long as professional schools continue to attempt complete vocational education, they will face a number of serious problems which are constantly growing more difficult to solve. One of these, now engaging the attention of school authorities throughout the United States, is the rapidly increasing complexity of professional practice and the growing amount of technical material that the schools are called on to teach. In every division of professional education these factors are giving much concern. In the main, they point toward an increasing amount of time spent in preparation. But the economic stress of modern life makes urgent the entrance on productive work as early as possible. Hence, to require more preparation means to delay beginning professional work and a corresponding economic disadvantage. These two diametrically opposed trends seem to present an insoluble problem. The answer has not been found. Various efforts are being made to deal with the situation effectively, but to date the net result is a general trend toward lengthening the preparation period. Law, medicine, and library work are increasingly demanding four years of college work for entrance to the professional college, where all the time can then be spent on professional subjects. Schools of education are tending in the same direction, with a marked emphasis being placed upon graduate degrees for all teachers. The tendency of university schools of theology, also, is to become graduate schools, in which the entire time can be devoted to professional subjects.

Engineering and commerce colleges have attempted another solution, namely, an early specialization of curriculums. At the present time a large university college of engineering in the Middle West divides its work into twelve different curriculums, as follows: aeronautical engineering, agricultural engineering, ceramic engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering, mining and metallurgical engineering, engineering physics, public health engineering, railway engineering, and sanitary engineering. The president of an eastern engineering college a few years ago called attention to the catalogue of one college that offered forty-three distinct engineering curriculums. This seems to be an easy way out of the dilemma for the school; but it is questionable whether it is any nearer the solution of the problem than the schemes of other professional schools, since the young men entering these highly specialized curriculums are frequently unable to choose wisely and find themselves so dissatisfied later that they enter other fields. Also, industry, which must absorb the product of the engineering college, often ignores the specialized character of the college training and, after trying the graduate in various kinds of work, offers him the specialized training he needs for the position he finally chooses. The question arises: "Would not a somewhat shorter and more general or basic technical training be a wiser use of college years?" This problem has for many years concerned leaders of engineering education; as long ago as 1928, President Harvey N. Davis of Stevens Institute of Technology, in his inaugural address on "The Ideal Engineering Curriculum," described such a curriculum thus:

"There will not be a multiplicity of more or less specialized undergraduate curricula, each designed to train for some one variety of engineering career. There will be one curriculum. And in this curriculum the emphasis will be placed on the basic disciplines that underlie all engineering careers; there will be plenty of mathematics, physics, and chemistry; there will be mechanics in all its branches, including the deplorably few fundamental principles that are yet known as to the nature and serviceableness of the materials of engineering.

"This curriculum will also emphasize the non-technical, purely human side of an engineer's life by offering an appropriate amount of history and literature, of economics and government, of psychology, of philosophy and ethics, and even of music and art, and by stressing the economic and human sides of engineering itself in every available way.

"And finally this curriculum will be such as to develop in each individual student, to at least an acceptable degree, the various arts of self-expression and of communication, including not only the sketching pencil and the drawing pen, without which so many engineers are hopelessly inarticulate, but particularly the written and the spoken word."[1]

Such a course might well be followed by a large number of highly specialized short-unit courses for practicing engineers. But still unsolved is the problem of the thorough preparation of students of the professions for constantly expanding vocations that require increasing amounts of training at an earlier age so as not to handicap them unduly by a late start on economic production. Perhaps the creation of a thoroughly modernized form of apprenticeship, involving the organized professions and the colleges, will offer a solution. But there is no indication of immediate developments in that direction.

The Problem of Theory and Practice

Two of the most vexing difficulties with which the vocational school of college grade is confronted are the making of adequate provision for training in practical skill and the proper relating of practice and theory. The school is greatly handicapped at this point by tradition, by the "academic" influences of the universities, and by its professors' lack of special training for teaching. A fundamental of vocational education, at the lower occupational levels, is that *practice should precede theory.* The teaching of theory before the student can understand fully its significance as a basis of practice results in a more or less rote memorizing of statements of theory and failure to associate the theory with the skills it underlies. The result is that the theory fails to function when practice is later undertaken. On the other hand, when practice is attempted and partially fails through lack of knowledge of underlying principles or technical facts, there arises a question about the "why" of the practice. If this question is immediately answered, a most effective and economical teaching and learning occurs. Such a process seems to be cumulative in its efficiency as the learner progresses. There can be little doubt of the soundness of this method in vocational education of less than college grade. The extent to which it applies in teaching the professions is debatable. The two vocational-education levels differ both in the character of content and skills to be mastered and in the types of students involved. The relative amounts of manual or practical skill and of intellectual acuteness in analysis, synthesis, and decision making differ greatly in the two levels. In one case practical skill is the major requisite; in the other intellectual grasp and power are far more important. This fact makes essential, in the professions, a selection of students on the basis of intellectual attainment, which results in a student body with seemingly greater powers of generalization. From this arises the debate as to the value of "cold-storage" education for the professions.

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[1] *Mechanical Engineering,* vol. II, No. 2, p. 130.

Since the practice of a profession involves analysis, synthesis, interpretation, and making decisions based upon a knowledge of "the law and the facts," is not the very process of studying, discussing, and forming conclusions, which goes on daily in classroom, lecture room, and laboratory, actual drill in the practice of a large phase of professional activity? The reply immediately occurs to one that, notwithstanding that the mental processes seem identical with those of the practitioner, the conditions surrounding the student are utterly different. This raises the question of the possible compensating value of the superior imagination of the selected mind. Cannot a superior, educated mind create for itself, through imagination, a set of conditions approximating actual conditions that later will be encountered? Obviously individuals vary in their abilities in this regard. But the general dissatisfaction, which seems to obtain throughout the professional world with the training given in the professional schools, suggests that present methods of teaching and course organization are far from satisfactory.

The weight of evidence seems to point to the position that the method of relating theory and practice, as it is related in the best forms of apprenticeship, is a necessary condition of all efficient vocational education of whatever level. The influences governing the conduct of a college, however, make the most desirable relationship of practice and theory all but impossible; and this fact places a most serious handicap upon all colleges designed to train for the professions. Numerous schemes have been tried to remedy the difficulty, but none has proved entirely satisfactory. Engineering colleges have encouraged summer work in professional activities, but the obvious difficulties in such a solution make it a far from satisfactory means. A few colleges have experienced a fair degree of success by adopting cooperative part-time schemes whereby the students work in the profession and attend classes on alternate weeks or months throughout their college years. There are inherent weaknesses in this scheme that make its general adoption most unlikely. Most engineering colleges merely confess their inability to solve the problem and turn their graduates over to the profession, for better or worse, hoping that their college experience will somehow prove worth the time and money it consumed. Medical schools rely upon the clinical work of the junior and senior years and the internship immediately following the classroom instruction. This is recognized as a far from satisfactory solution of the problem. A faculty committee of a well-known university medical college some years ago stated in a report to the governing body of the university: "It is believed that the student, in order to appreciate the bearing and significance of the fundamental studies, should begin his study of the clinical branches, both theoretically and practically on the patient, while he is still principally occupied with these fundamentals. This should quicken his interest in these basic subjects by carrying down into them a definite and tangible and clinical significance. This has been accomplished by introducing a fair portion of the clinical teaching into the Sophomore year, whereas previously the clinical teaching began with the Junior year." This report suggests the growing lack of satisfaction with the separation of theory and practice of the traditional plan of professional education. Colleges of education have for some years been experimenting with the "practice school" with discouraging results. Law colleges have tried the "moot court" but are far from enthusiastic over the results. Some of the schools for ministers have encouraged their students in the holding of "pastorates" in small towns near the college, and every week end the students travel to their churches and carry on certain of the usual activities of the profession. This scheme has proved quite effective in individual cases but has limitations that make it unsatisfactory as a complete solution of the problem.

The other professional colleges have tried devices similar to those mentioned, but all end in more or less discouragement. To the present, no one has been able to suggest a remedy for this inherent weakness of all vocational schools of college grade. Perhaps the solution of the problem will be found in a cooperative scheme between the organized professions and the colleges, supplemented by a program of short-unit upgrading courses offered during slack seasons throughout their professional careers, to practitioners who have graduated from a brief but unspecialized college course. There will doubtless be a somewhat different solution for each profession; but some form of part-time training beginning early in the preparation period and followed by opportunity for brief upgrading courses of a highly specialized character seems to meet the basic requirements of all vocational education. That practice and theory must be closely related in point of time, and that, as far as possible, practice should precede theory have long been accepted principles of vocational education, and such relationships can most satisfactorily be established when actual vocational participation occurs during the learning period.

Correlation of Courses

Another most perplexing difficulty with which the vocational schools of college rank are troubled is the multiplicity of uncorrelated technical courses. The lack of correlation reveals itself in two aspects, namely, in the teaching of principles basic to certain applied courses at such time and in such manner that the relationship does not appear to the student when he comes to study the applied course and in a wasteful duplication of instruction by the overlapping of courses. Both these defects are results of departmentalized teaching. Departmentalization always tends toward the disintegration of instructional material and emphasis upon ends that are not harmoniously related to the ultimate end of the entire curriculum. The biology course offered by a biology department for medical students is constantly in danger of teaching biology wholly without reference to the student's aim in studying it. The result is a body of facts that too often, because unrelated, are not usable by the student when he reaches other courses for which his study of biology presumably was preparation. The same problem is found in engineering with respect to certain divisions of mathematics and physics, in education with respect to psychology, in commerce with respect to economics, and in other professions with respect to other technical subjects. The increasing need for direct and skillful applications of basic technical knowledge in professional practice is making the problem of correlated knowledge one of the most serious in education for the professions. The unpublished report on medical education, mentioned above, says on this point: "We believe, and this belief is now well-nigh unanimous, that the most necessary change is the thorough correlation between the subjects of the first two and last two years. This is imperative, because of the ever increasing introduction of physiological, biological, and chemical methods into daily bedside practice."

Not only is there almost universal complaint that graduates of professional schools are unable to make intelligent and skillful use of basic technical knowledge, but particularly do the teachers of the applied subjects complain that their students do not seem to be aware of the technical principles involved in these courses. Obviously the fault does not lie wholly with the students. It appears to be chiefly a matter of point of view and method of teaching, both on the part of the basic- technical-subjects teacher and of the applied-subjects teacher. The solution is doubtless a carefully planned and persistently enforced *correlation*, both of content and of method, in all related courses. Such a correlation would also help to remove the prevalent wasteful overlapping of material. However, overlapping occurs chiefly among the applied courses. In a college of education, for example, students not infrequently are made weary by a tiresome repetition of such divisions of subject-matter as tests and measurements, individual differences, extracurricular activities, and socialized recitations in three or four presumably separate and distinct applied courses. Other professional colleges, in differing degrees, are troubled with this same problem. A partial break from the traditional notion of the necessity for absolute freedom of action on the part of professors and the adoption of sufficient supervision of instruction to ensure students against such wasteful procedures perhaps would also be a desirable way to deal with this difficulty. It is probable, too, that, by careful correlation and at least some degree of supervision of instruction, there could be a much-needed cutting-down of the number of subjects now in the curriculums of professional schools. Probably the mere elimination of overlapping would in many cases make it profitable to consolidate several courses into one strong course. This would be much to the advantage of all concerned. Correlation, consolidation, and cooperation of specialized instruction are greatly needed in professional schools.

Cultural Needs

With the rapid expansion both of the basic fields of knowledge underlying the professions and of the number of specialized activities involved in professional practice, there has come a crowding out of cultural influences in the student's life. Courses designed primarily to promote culture have been cut to "minimum essentials" in the curriculums prescribed for the student preparing himself for a profession. The idea that the vocational courses must first be provided and that, if any time remains, certain cultural activities and general "academic" courses may be inserted into the program has been prevalent among faculties of professional schools. There has existed, also, an idea that cultural influences are desirable but not necessary. They have been considered somewhat in the light of luxuries. The stock pleasantry in engineering colleges, "Us engineers don't need no English," is the exaggerated expression of this attitude. During recent years, the criticisms of alumni to the effect that they have been seriously handicapped, both in their professional advancement and in their social relationships, by an embarrassing lack of intellectual and aesthetic background has aroused the professional colleges to a consideration of this weakness in their offerings. But the solution of the problem is most difficult. The demands of the college for basic technical and professional training are growing constantly; yet there must be more time given over to cultural influences, taken from that now assigned to vocational courses.

Several schemes are being tried, but none is fully satisfactory. One scheme is to extend the period of professional training. Another is to delay professional training until a program of liberal education is completed. A third is to provide more opportunity for liberal arts courses as electives. None of the attempted solutions has dealt with the problem in a fundamental way. One well may doubt whether a professional man who blames his vocational college for his lack of culture is quite sincere and worthy of serious consideration. Culture cannot be acquired in college, and in a world filled with books, magazines, theaters, churches, lecture courses, museums, operas, concerts, art galleries, and opportunities for travel, a lack of culture seems to be chargeable mainly to the one who suffers such a want. On the other hand, it may be said that the professional colleges have upon them the duty of pointing out to their students the great importance of general culture, not only as a vocational asset, but as a vital phase of "abundant" living. And they undoubtedly should ensure to their students at least an introduction to those fields of learning that are most conducive to the development of cultural interests. It may yet be found advisable to sacrifice some of the vocational subjects in professional schools to give the students more opportunity to acquire interests that will lead toward a life of culture as well as a life of vocational expertness.

Marginal Responsibilities

Closely related to the need for a larger place for culture in the education of a professional man is the need for college training in the subjects that may prepare one for his "marginal responsibilities." This expression has appeared to denote, in part, those activities in which a professional man may be expected to engage as a citizen and community leader and, particularly, to describe his duties as a practitioner that are not purely technical. A successful engineer is one who can cooperate with others and direct them. He will have to be able to speak and write clearly and convincingly. On occasion he will have to preside over an assembly or a committee. But, because he is an engineer, he will have to deal with intricate problems of finance and politics and will be called on for opinions and services that are not regarded as definable activities of his job but exist because of his job. In like manner, lawyers, doctors, teachers, preachers, and members of the other professions are constantly engaged in activities, as a vital part of their daily practice, that have to do with applications of economics, psychology, sociology, political science, ethics, etc. Indeed, a knowledge of such subjects constitutes the chief need of professional men who have reached the higher levels of their vocations. Advancement nearly always means a change from technical to directive and personnel duties—from contact with technical details to dealing primarily with broad, social policies and with people. As specialization increases, professional advancement increasingly calls for broader understandings of the social sciences and for larger executive abilities. The realization of this fact is bringing down upon the professional schools more criticism from alumni than the realization of a lack of general culture. Again, the solution seems to be, in part, a substitution of courses in the social sciences for some of the many specialized vocational courses now required of students. Here, as in the case of cultural lacks, it may be said that one's growth in ability to discharge the marginal responsibilities of one's occupation is largely a matter of individual, personal adaptation. The schools can at least urge the need for such adaptation and suggest ways of preparing for it.

Selection of Students

Another difficulty with which vocational education of college grade is confronted is the selection of students. The high mortality of registrants in professional schools and the large proportion of professionally trained people who desert their vocations are matters of frequent comment. They seem to be produced by three factors, namely, (1) ignorance on the part of the student as to the real character of preparation for, and practice in, the chosen profession, (2) uncertainty in the student's mind as to his vocational choice, and (3) unfitness for the profession. It is probably true, also, that improperly arranged curriculums and poor teaching are prolific causes of the elimination of undergraduate students from professional schools. Many students deliberately use these schools to test their vocational aptitudes and enter with the expectation of dropping out if they find that they are not fitted for it or are not greatly attracted by the type of work involved. This is a less expensive way to obtain vocational guidance than the usual one of actually entering a vocation before deciding definitely on a choice of vocation. It is not the purpose for which the schools are designed, however, and is much more expensive than vocational guidance need be. But the great problem is that of the student who has chosen his profession with some degree of deliberation and has undertaken to prepare himself for it, only to discover to his instructors an utter lack of fitness. It is this type of student that the schools are anxious to keep out. To the present, no effective means has been devised to bar the unfit. Entrance examinations, intelligence tests, aptitude tests, formulas based upon combinations of high-school records, and various other schemes are being used. Each has some value, but none is entirely satisfactory. A further development of vocational-guidance programs, both in secondary schools and in colleges, will doubtless aid greatly to solve this problem. But it remains one of the most vexing administrative problems of vocational education of college grade.

Preparation of Teachers

The preparation of teachers for vocational schools of college grade, strangely enough, has been an aspect of education for the professions almost wholly overlooked. Notwithstanding that nearly every major problem of such education is closely related to the preparation and selection of the teaching personnel, little or nothing has been done to provide the special training needed by these vocational teachers. As pointed out earlier in this chapter, the first professional colleges were manned chiefly by practitioners who gave part of their time to teaching while engaged in the regular practice of their professions. In such cases, unusual success as a teacher could be accounted for only on the ground of chance. Throughout their history professional schools have been handicapped by the traditional university theory, "Anyone who really *knows* his subject can teach it." The implication of this statement is so obviously fallacious that it seems incredible that it has, during so many years, dominated the pedagogy of higher education.

College teachers are usually selected wholly without reference to their ability to teach and, when selected, are given not the slightest encouragement either to do good teaching or to give any attention to the problems of teaching. The entire emphasis is placed upon research and publication. That this results in an appalling inefficiency is evident to anyone acquainted with the work of colleges and universities. The universal practice of rewarding research and publication and ignoring teaching has created a contemptuous attitude toward teaching on the part of many college and university teachers, which makes progress in the direction of improvement of instruction almost impossible. Charles R. Mann, in his careful study of engineering education, wrote: "It is unquestionably true that research, as at present treated, does interfere seriously with teaching. Hundreds of college instructors whose interests lie in the human problems of education, rather than in the material problems of natural science, are now being diverted from a study of the teaching problem and induced to undertake research because academic promotion so obviously depends on the latter. Many a young man with promise of making an excellent teacher is sidetracked by the requirements of the Ph.D. degree and becomes instead, a mediocre researcher." [2] Mann then made the interesting suggestion that the mistake is not in emphasizing research but in overlooking the fact that teaching itself offers a most profitable field for research of a high order and that when the results of teaching can be as accurately gauged as those of research in the physical sciences, the universities will reward good teaching as they now reward successful research. Whatever the reason for the prevalence of this unfortunate custom in the colleges of arts and sciences, for it to be carried over into the vocational colleges of the universities could result only in a misfortune of the first magnitude. That it did carry over is only too obvious.

Vocational colleges, unquestionably, are under the obligation to maintain continuous and extensive research in the applications of science to vocational activities; but it seems to be an undebatable proposition that their greater responsibility is to teach the skills and technical facts and develop the attitudes of the professions. Hence, one expects to find the primary emphasis in such schools placed upon good teaching. Unfortunately this is not the case. The common, traditional procedure of all higher education, including vocational education, is to select young students who have succeeded in making high grades in their undergraduate work and to make them part-time assistant instructors. They usually begin teaching without any instruction in methods. Their major interest during this state of their careers is the graduate study which they begin simultaneously with their efforts to teach. After they complete their graduate study, if they show unusual aptitude in the particular methods of research in vogue in the institution employing them, they are retained as full-time instructors. If they continue their research activities and, from time to time, publish reports of their progress, thereby winning recognition from the older workers in their field throughout the country, they will eventually be made professors. Except in rare cases, throughout this entire process, little or no consideration is given to teaching ability. This is, of course, not the only method of selection. Many schools still select part of their faculties from the successful men in professional practice, and some schools deliberately encourage good teaching. In recent years there has appeared a trend toward a greater emphasis on good teaching methods in professional schools. The urgency of rapid and effective training in many vocational activities during the two world wars doubtless served to call attention to the importance of the techniques of teaching. But in the main the methods used in the selection and training of the teachers who man the vocational schools of college grade are far behind the progress made in the sciences and skills taught in these schools.

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[2] MANN, CHARLES R., "A Study of Engineering Education," p. 104, The Carnegie Foundation for the Advancement of Teaching, New York, 1918.

The failure of the higher vocational schools to keep clearly before them the essential aim of vocational education is probably an important cause of the continued dominance of traditional academic standards of teaching. The persistent tendency in some cases to confuse the purposes of the professional courses with those of the liberal arts courses is a source of much inefficiency. If the strictly vocational purposes of the professional schools and departments could be fully realized, the attitude toward the qualifications of their teachers would probably change. Clearly, the first requisite of a vocational teacher is a mastery of the skills and technical knowledge of the vocation for which he is training youth. The second necessary qualification is skill in teaching. Both qualifications result from effective study and successful experience. Hence it would seem to be axiomatic that a high-grade vocational teacher is (1) one who is well trained in the technical and general knowledge involved in the successful practice of the profession for which he prepares his students, (2) one who has practiced his profession long enough to acquire mastery and to demonstrate his ability to succeed, and (3) one who has been specially trained in the processes of teaching the knowledge and skills he possesses. In vocational education of less than college grade these propositions are no longer debated and have become firmly established as the basis of practice throughout the United States. It seems incredible that vocational education of college grade can continue for many more years to ignore the vital matter of the professional training of its teachers. Whenever professional colleges demand properly prepared teachers, the necessary facilities for their training will undoubtedly be provided. In the meantime there is a great need for scientific research to uncover the most effective methods of teaching the facts and skills and of developing the attitudes needed by successful professional workers in their respective vocations.

Summary

In every division of vocational education of college rank there is evident a most healthful state of unrest. This condition has been produced both by criticism from the professions and by the contagion of the scientific spirit of investigation that permeates the atmosphere of the universities. In engineering, law, medicine, theology, and education, particularly, those responsible for curriculums and methods of instruction are beginning to exhibit concern over the problem of the development of more effective programs of instruction and of better techniques of teaching. The difficulties in the various vocational fields vary greatly in detail, but fundamentally they are all characteristic problems of vocational education. They involve the following considerations basic to all vocational education: the proper relating of general education to technical knowledge and practical skill; the selection of students possessing requisite qualifications for success, both in the training for, and in the practice of, the particular profession; the selection and proper training of teachers; the desirable coordination of the school aspects of training and the apprenticeship, or adjustment, aspects that must be had in the field; the proper balancing of basic and applied subjects, both quantitatively and sequentially; and the development of efficient methods that will result both in imparting knowledge effectively and in developing appropriate mental habits and attitudes. In addition to these characteristic problems the professions have at least one other that is peculiar to vocational education of college grade: the encouragement of research and the consequent need for differentiation among students on the basis of special fitness for research. This problem has received little attention, and much waste of time and energy has resulted from its neglect. An unjustifiable faith in the process of "natural selection," whereby the fit will inevitably prepare for research and the others enter practice immediately upon being licensed, has been relied upon to solve this problem. It is probable that before many more years have passed, an effective means of selection will make possible an early differentiation of training programs for those who are to become practitioners and those who are destined to be research specialists.

Another related problem, generally ignored except in teacher training, is that of training specifically for the different levels found in all professions. Perhaps because of a very broad interpretation of democracy, professional schools in the United States have traditionally ignored levels or grades of practice. English law training, for example, historically distinguished among clerks, solicitors, and barristers; but notwithstanding the dominating influence of English legal philosophy and English law in the history of American law, this aspect of the legal scheme of England was not adopted in America. Probably much waste of time, energy, and talent could be avoided if, in all professions, the different grades or levels of practice were recognized in schemes of professional education. There is evident a growing interest in this aspect of education for the professions.

There are numerous indications that traditions, which have so seriously hindered progress in education for the professions, are losing the dominating influence they have possessed throughout the history of professional colleges. Gradually there is growing up a self-conscious profession of vocational teachers within each professional field. When the majority of teachers of the vocations of college grade come to regard their work as a distinct profession, progress will be rapid. The numerous societies of teachers in the various professions indicate the growing recognition of a distinctive teaching division within the professions. Whenever the teachers of the professions come generally to recognize the need for special training for the work of the teacher, one of the most important advances in the whole realm of vocational education of college grade will have been made. The other great step needed to ensure rapid progress is a general recognition of education for the professions as *vocational education*, rather than as a modified type of liberal or cultural education.

QUESTIONS AND PROBLEMS

1. Why is it more difficult to develop cooperative programs of vocational education of college grade than of less than college grade?
2. Work out a plan whereby theory and practice could be prop-

erly related (as defined in this chapter) in the training of lawyers.

3. Why is a desirable correlation of courses so difficult in university colleges? How would you remedy the present condition of affairs with respect to correlation of basic and applied technical courses?
4. Aside from compulsory subject requirements, what would you suggest as an effective way to lead students to prepare themselves adequately for the marginal responsibilities of professional endeavor?
5. Outline a program of vocational guidance for a large state university, designed to eliminate as much waste of time as possible in the professional colleges of the university.
6. What, in your opinion, would be the most effective method of solving the problem of poor teaching in professional schools?

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CHAPTER XVII

Preparation of Teachers of the Vocations

Importance of Role of the Vocational Teacher

The success of any program of vocational education, or any specialized course of instruction, is conditioned by the ability of the teacher effectively to teach. If there is failure at this point, the whole structure fails. Hence the selection, preparation, and supervision of the teachers of the vocations are of vital importance in all vocational education. The problems of selection and preparation differ somewhat in the different grades and kinds of vocations for which training is given, but essentially they are much alike in all cases. All vocational teachers must of necessity be masters of the vocations they teach. It is also important that they be skillful in the techniques of teaching, able to command the respect of their pupils, and able to develop in them the desirable vocational attitudes. These qualities are needed alike in the teacher of law, the trade teacher, and the teaching foreman breaking in a group of semiskilled factory workers. That these needs are not yet universally recognized is probably due to the relative newness of vocational education as a field of investigation and professional study. The problem of providing properly qualified teachers presents many difficulties, not the least of which is to induce persons of suitable personality and native powers to prepare themselves for teaching. The financial reward for practicing a vocation successfully is usually so much greater than that for teaching it to others that it is often very difficult to attract the successful practitioner to the teaching vocation. It is also true that to change from another vocation to that of teaching entails so complete a revolution in habits, attitudes, and environment as to make the transition very difficult for many desirable persons. It is not improbable that all the more difficult vocations will, in time, come to recognize teaching as one of their most important branches and that young men and women will, before entering vocational practice, choose to become teachers of their vocations, engaging in practice only long enough to master the skills and knowledge that come only from practice. In the meantime, the results of careful study are accumulating, and much is being learned about the preparation of vocational teachers.

Selection of Student Teachers

The first step in the process of providing an adequate supply of competent teachers obviously is the careful selection of trainees. To the present little attention has been given to this phase of the problem. Teacher-training agencies seldom make use of selective means other than the traditional academic requirement of certain subject prerequisites or the completion of certain school "grades" or college "units." In most cases, a minimum number of years of successful vocational experience is also set up, together with a minimum age requirement. But insofar as the important factors of personality, temperamental qualities, physical traits, social qualities, and the like are concerned, little or no selection is made. The result is much inefficiency in teacher-training programs. It is an extravagance to provide an elaborate and costly program of teacher training for persons who are for any reason unsuited to the vocation of teaching. To avoid such a waste, it would seem desirable to establish standards of personal qualifications and means of testing applicants for such qualifications. In the absence of any generally accepted objective procedures for testing personal fitness, much wasted effort doubtless could be avoided by requiring applicants to submit written evidence of fitness in the form of suitable recommendations covering personality traits and by requiring interviews with trained counselors attached to the teacher-training staff. To hold that it is undemocratic to refuse entrance to any who can meet the traditional and conventional requirements of age, scholarship, etc., indicates a superficial understanding of democracy. Democracy involves equality of opportunity to succeed, and one who is permitted to enter a vocation for which he is unsuited by nature is obviously being denied the opportunity of success enjoyed by the fit. It seems unfair, not only to the individual immediately concerned, but to the teacher-training agency, to the pupils of the vocational schools and to society to admit to a teacher-training course one who lacks the personal qualities necessary for successful vocational teaching.

There are, however, certain factors in the problem that add greatly to the difficulties of selection; and these factors differ in the various grades of vocations. In the training of teachers of the vocations of college grade, the tradition of scholarship so overshadows all other conditions that to base fitness on any other ground seems, to the present, all but impossible. In professional schools and in preprofessional courses, the students making high grades are the ones who usually are encouraged to look toward teaching. Personality, liking for teaching, and ability to deal with others rarely seem to be considered. Until this tradition loses its dominating force, little in the way of selection of candidates for teacher training can be done. Insofar as special training for teaching is concerned, other than the informal apprenticeship involved in student assistantships and part-time instructorships, little attention is given to teacher training. The absence of any organized effort to train teachers of the professions in the skills and technical knowledge of the teaching vocation, makes careful selection of candidates of very great importance because the only possible compensating factors in such a situation are expert knowledge and the possession of "natural" teaching qualities.

In the case of teachers of vocations of lower than college grade, selection of trainees is greatly complicated by the diversity of conditions of entrance to teaching positions in the several vocational fields. In home economics, efforts are made by some department heads to discourage undesirable applicants by means of counseling. Where this procedure is not practiced, some schools try to eliminate the unsuccessful student teachers as early as possible. In agriculture the lack of careful selection of candidates is somewhat compensated for by excellent training programs, high standards of work, and close supervision of the teachers after graduation from teacher-training institutions. In industrial education the situation is unique in that many teachers have no professional training before they begin to teach. The general requirement of from two to four years' successful experience as a mechanic, beyond the usual four-year apprenticeship, precludes for many the possibility of preparatory professional training. In some states, efforts have been made to choose and train desirable candidates, in teacher-training institutions, before they begin teaching; but the schemes used are costly and are not likely to be generally adopted. The usual problem faced by the teacher-training agency in this field is that of giving instruction to employed teachers on a part-time or evening-school basis. Here, the selection is largely in the hands of the employing officials of the various school systems, and since the teachers are chosen by administrative machinery designed to choose suitable teachers, a fairly satisfactory situation often exists. At least some attention is given to personal fitness for teaching duties. With reference to commercial teachers, there is such a great variation of practice both in selection and in training that general characterization is extremely difficult. It seems clear that there is great need for careful study of the whole range of problems involved in the selection of candidates for training courses for teachers of the vocations.

The wide variation in certificate requirements established by state boards of vocational education is convincing evidence of the need for more careful study of the problem of teacher selection. One aspect of the problem that frequently excites comment is the probable relation of time spent in the practice of a vocation and the skill and technical knowledge possessed as a result of the vocational experience. It is generally recognized that one person may acquire more skill and knowledge from a few months' vocational activity than another may acquire in several years. Because of this, it is often proposed that vocational teachers be selected wholly upon carefully developed examinations involving both written and performance sections. Some practical experience in the vocation one is to teach seems an absolute essential, but it is becoming increasingly clear that mere duration of such experience is inadequate as a measure of competence. The quality of the experience and its effect upon the prospective teacher are factors of major importance, and it is these factors that need measurement when candidates are selected. The growing interest in the improvement of means of selecting candidates for training for the profession of vocational teachers promises definite improvement in the situation in the years immediately ahead.

Training Courses and Methods

Only a little less confusion prevails in the procedures used in training vocational teachers than in the selection of candidates for training. As indicated above, there is no organized effort to give professional training to teachers of vocations of college grade, with the possible exception of the offerings found in a few institutions for the training of teachers-college instructors. For the training of teachers of vocations of lower than college grade fairly elaborate curriculums have been devised. They have arisen chiefly as a result of the emphasis placed on teacher training by the Federal Vocational Education Act and the policies of those charged with its administration. This act and subsequent related acts provide annual appropriations to be used for reimbursement of the states, on a dollar-for-dollar basis, for teacher training. The expenditure by a state of the minimum sum available for teacher training, to which it is entitled, is made a condition of Federal aid for vocational education. Each state receiving Federal aid for vocational education is required to submit its plans for teacher training to the Federal government, upon the conclusion, and before the periodical renewal, of the agreement or contract between them. Hence, acceptance by the states of the provisions of the Federal Vocational Education Act has resulted in the development of teacher-training programs in all the states.

There has been great variation in the type of schemes set up and in their effectiveness. In agricultural and homemaking education, four-year collegiate curriculums for teachers have been established at state colleges and universities, with fairly satisfactory results. The instructional material included in such curriculums has been accorded full recognition by institutions of higher learning. The graduates of such courses have, for the most part, become effective teachers in the high schools. Strictly from the standpoint of vocational education, there has been some criticism of the work of such teachers. Homemaking teachers are sometimes criticized for stressing technical *home economics,* rather than the common vocational skills, related knowledge, and the desirable attitudes of *homemaking.* The difference is chiefly a matter of point of view and emphasis. The college-trained teacher is often prone to overemphasize the sciences involved, at the expense of the manual skills, the social and personal relationships, and the tricks of the trade so greatly needed by homemakers. The temptation to do so is made all the greater by the acceptance of their courses in high-school curriculums for college entrance and the consequent desire to make them "academically respectable." In less degree, agriculture teachers are sometimes subjected to the same criticism. In industrial education a very different situation exists. There are so few young men who can meet the requirement of both trade experience and of college entrance that the resident four-year college curriculum for the training of trade teachers to the present plays a minor role in the training of trade teachers. As pointed out above, the common practice in this field is to train beginners on the job, or to organize classes of prospective teachers at various centers throughout the state. These are usually taught by an itinerant teacher trainer, sent out either by a teacher-training institution or by the state board for vocational education. In either case the students are men and women already experienced in the skills and technical knowledge of their crafts, and the training effort is directed chiefly toward converting them into effective teachers. Increasingly such teachers, by means of extension courses and attendance in summer schools, are acquiring college degrees; and in some cases both college credits and trade experience are obtained simultaneously on a part-time attendance basis. Increasingly, teachers of business courses are obtaining college degrees before beginning to teach, but to the present many of them are deficient in practical experience. There is a marked improvement in this field, however, with respect to teacher training.

Training Procedures

The procedures involved in the successful training of vocational teachers require considerable skill. In the case of the experienced worker who wants to become a teacher of his vocation, the teacher trainer has to be a diplomat as well as a pedagogue. Usually the first step has to be that of leading the prospective teacher to the state of mind that will make instruction and learning possible. A curious belief among many such persons is that they already know how to teach; and systematic, effective instruction is extremely difficult until such a notion is inhibited. It is at this stage of the process that the teacher trainer has to exercise much tact and wisdom in his efforts to convince the trainee of the need for special knowledge and skill concerning the teaching process. Much time and patience are necessary for this first step. The next important step is to create an intense interest in the processes of teaching. Various methods are used to this end. Descriptions of numerous examples of good and bad teaching, taken from the experiences of the class and the teacher trainer, will aid in making the student both conscious and critical of teaching processes. The conscious example of the teacher trainer will also play an important part. The simple device of requiring each member of a teacher-training class to attempt to teach a skill or some unit of technical knowledge to his class and defend his procedure against the criticisms of his classmates is often found very effective. As interest begins to appear, the facts every teacher ought to know thoroughly with reference to (1) the learning process, (2) habit formation, (3) interest and attention, (4) individual differences, (5) teacher personality and point of view, (6) course planning, (7) lesson planning, and (8) the special methods of teaching peculiar to the vocation to be taught, need to be presented carefully and in the most interesting and concrete manner possible. The teacher trainer who is not versatile, keen-witted, and possessed of a ready sense of humor cannot hope to be more than moderately successful with this kind of student. It is astounding how readily such learners will respond to skillful treatment, however, and how rapidly many of them develop as effective teachers.

Experience has shown that the problem of transforming an experienced worker in a trade or other vocation into a vocational teacher is primarily one of leading him to a new point of view. He must come to think of himself no longer as merely a machinist, a salesman, or a draftsman but as a teacher of others. Hence, to attempt to train him by showing him the generally adopted techniques of teaching before his attitude has undergone a revolutionary change seemingly is to start at the wrong end of the process. It is possible, by such a procedure, to produce a rule-of-thumb teacher who can do a fairly acceptable grade of work when closely supervised; but to produce a thinking teacher who will grow through self-development it is necessary to use a much more difficult method. The desirable point of view results usually from the possession of special knowledge about teaching and from the growth of pride in the possession of such knowledge and special teaching skills. Until the would-be teacher is conscious of an esoteric knowledge peculiar to teachers, he is not likely to think of himself as being different from all other machinists, salesmen, or draftsmen. Hence, the surest method of reaching the desired end seems to be to acquaint the new teacher with the terminology, proved facts, and theories of the teacher's profession that have any possible relation to his field of teaching. As he becomes impressed with the idea that these new names and facts are the special possession of teachers, he assumes a new relationship to his former associates and to all others. This is one of the first and most important steps in the training of vocational workers to become vocational teachers. If it is thoroughly made, the novice can often be trusted to finish the process himself. To teach specific procedures of special method then becomes a relatively simple matter. There is probably no best way to reach this goal. The personality of the teacher trainer, and the general conditions under which the instruction is given, should guide in the choice of methods. Some teachers are most effective in using a modified lecture method; others are most successful with some type of group discussion or conference method; and still others have the ability to use both methods and can vary their procedure to meet changing situations from day to day. Whatever the method, the student teachers drawn from the vocations should be led early to *study* their new work, and, as far as possible, to learn to read books and magazines dealing with their new vocation. Somewhere in the process, opportunity should be provided to put the new knowledge into practice, under supervision. A skillful teacher trainer, given a free hand with his class and opportunity to direct their first teaching, can produce excellent results in a remarkably short period of time. A series of short-unit courses for beginners, given after they have begun to try to teach, is probably the best possible procedure for the training of teachers having vocational experience in the vocations they are teaching.

The training of young people in colleges as vocational teachers presents a different problem. Usually the student is younger, is less sure of his choice of teaching as a vocation, has a less purposeful attitude toward his professional studies, and is endeavoring to acquire a general education simultaneously. In addition, he is less sure of his mastery of the vocation to be taught, and needs to be given additional skill and technical knowledge in it. Since he does not carry the responsibility of occupational employment, the vital motivation present in the case of the employed novice is lacking. Hence, teacher training under such conditions may become less efficient than training given to employed beginners. That many useless facts are learned and many useful ones forgotten before they can find a use is not to be denied. Furthermore, the instructor is ever under temptation to overemphasize theoretical material that may be, at best, of doubtful value to the teacher. The fact that the products of college training schemes usually are successful, after a few years of teaching experience, probably is due in large part to the selective character of such schemes and to the disciplinary value of the experiences leading to graduation. It was suggested in Chapter XVI that some kind of cooperative part-time scheme of coordinated college instruction and learning on the job would be much more efficient than the usual procedure of preemployment training. The effectiveness of summer schools in the training of public-school teachers strongly suggests the value of such a scheme. Until some type of cooperative organization is possible, a much more effective program of practice teaching than is usually found would seem to be highly desirable.

In recent years there has been a growing interest among teacher-training institutions in the development of programs of "apprentice teacher training" or "internships," as they are variously termed. Under such a scheme, student teachers are employed by school boards for brief terms of from six to twelve weeks, or other suitable periods, as helpers or assistant teachers. While still registered as resident students in the teacher-training institution, such student teachers reside in the communities where they teach and report at intervals on their experiences to their college instructors. Usually a supervising teacher from the college makes frequent visits to the schools where the student teachers are employed and holds conferences with them and the regularly employed teachers under whom the apprenticeship is served. This procedure offers great promise and is being used increasingly by teachers colleges and colleges of education in universities. To the present, this type of practice teaching has been used most often by departments of home economics and agricultural education, but there does not seem to be any reason to doubt that it will prove effective as a means of teacher training in all divisions of vocational education of less than college grade.

Problem of Breadth versus Narrow Training

A problem of teacher training that has produced much discussion, and about which general agreement has not yet been reached, is the relative importance of breadth of professional and technical training on the one hand, and of specialization of training on the other. At the college level the discussion centers about the question of how much general or "liberal arts" education should be required before specialization and professional training begin, and of the degree of specialization that should be required in the preemployment training program. There seems to be a rather widespread opinion that too many teachers, as well as practitioners, of the professions are too narrow in their interests and background of general and technical knowledge. There is also some evidence that the situation is not as serious as many critics have believed. However, the problem is often discussed, and there seems to be a rather general trend toward broadening the base of both general and professional education and deferring training in narrow specialties to the postgraduate level or to in-service training for those preparing to practice the professions and those expecting to teach the professions in professional colleges.

At the subcollege level, the problem involves the questions of the amount of general education the vocational teacher should possess and the amount of professional education that is desirable. As to the first of the questions, experience has shown that the vocational teacher possessing a broad and thorough general education is distinctly superior to the teacher with little general education when other factors of teaching success are approximately equal. General administrators recognize this fact, and they increasingly seek vocational teachers with superior general education. This is true in all the four major divisions of vocational education: namely, agricultural, business, homemaking, and industrial. The second question is debated often by specialists in vocational education and centers upon the matter of the amount of time and emphasis that should be placed upon breadth of professional education. There are those who argue that a minimum of professional training should be provided and that it should be of a very simple and "applied" character. Others think that vocational teachers should be as broadly trained in educational psychology, history of education, philosophy of education, teaching methods, curriculum problems, and other professional areas of knowledge as are teachers in other fields of secondary education. A study of opinions of teachers in service and their principals will usually indicate that the latter sort of training is preferred by the majority. A study[1] recently made of such opinions of agricultural teachers and their principals in Illinois showed that 82 per cent of the agricultural teachers and their principals replying to a questionnaire favored four years of college training for agricultural teachers, and 15 per cent favored five years. The same group favored a college requirement for graduation of 134 semester hours; and with reference to the distribution of credit hours, the returns were as follows: The median number of hours in agriculture recommended was 52, and the range was from 40 to 120. The median number of hours in professional education was 20 and the range from 10 to 30. The median number of hours in general education recommended was 54, and the range was from 20 to 80. Opinions regarding the matter vary somewhat among vocational teachers in the several vocational fields, but there is clear evidence of a growing emphasis upon a broader background of both general and professional education. There is evidence, also, of a growing interest in such training requirements among industrial and business employers who maintain training programs in their establishments. There is, of course, no disposition on the part of any to decrease the requirements for skill and technical training but only a conviction that, in addition, more attention should be given to breadth of general and professional education. This tendency is no doubt due in part to the growing realization of the importance of versatility as a factor of success in most vocations and that breadth of background is essential to versatility. The broadly educated and broadly trained vocational teacher is not only likely to be more versatile in adjusting himself to changing conditions, but he is also likely to be the product of a more highly selective educational and training process than the teacher narrowly trained in a highly specialized program.

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[1] HAMLIN, H. M., "Preservice Professional and General Education of Teachers of Vocational Agriculture," Unpublished report, College of Education, University of Illinois, 1947.

While the question of the extent to which breadth of education and training should be required of vocational teachers is one of concern in all four major divisions, it is most acute in industrial education because of the source of supply of industrial teachers. These teachers have to be drawn from the trades rather than from the colleges, and to require for entrance to teaching positions either a broad general educational background or a broad professional training would be, in most instances, to eliminate the possibility of obtaining otherwise qualified teachers. Increasingly, however, industrial teachers, on their own initiative, are utilizing evening, summer, extension, and home-study courses for more general education and broader professional training, as well as for advanced technical training.

Another matter of interest to those concerned with teacher training in vocational education is the desirability of requiring what might properly be termed "refresher experiences" in the vocations taught. There has been much interest in this matter in the field of industrial education, and many authorities advocate requiring trade teachers to return to industrial work in factories or other production places at frequent intervals for brief experience. This is of growing importance for industrial teachers because of the rapid development of new processes and new products in industry. The extent of the growth in number, during recent years, of new devices, processes, and products in the factory industries alone is remarkable, and it is highly desirable that industrial teachers be acquainted from firsthand experience with the most significant new developments. It is, of course, equally important that teachers in the other areas of vocational education keep abreast of new developments in the vocations they teach. Various means have been developed in the several vocational divisions to provide teachers with the opportunity for becoming acquainted with new advances. Among these are special short courses, clinics, so-called "workshops," and special part-time work and study experiences provided jointly by schools and employers. All these means are helpful and desirable, and there is clearly a trend toward expanding such means; however, in addition to these opportunities for improvement of teacher knowledge of new developments, it seems clear that reliance on occasional short periods of employment in the vocations constitutes the most effective means of upgrading teachers in the skills and technical knowledge involved in new vocational developments. Perhaps it should be said further that even if there were no new skills or facts to be acquired by the experienced vocational teacher, an occasional return to vocational practice would be desirable to renew contact with the actual conditions that he is training his pupils to deal with and to renew his own skills.

Trends

Teachers of the professions still learn their occupation by the traditional methods of imitation and trial and error. But there are evidences in professional schools of a growing interest in the teaching process, and many teachers in these institutions are giving careful attention to the improvement of methods of instruction. Such an interest will doubtless lead, in time, to a demand for professionally trained teachers in professional colleges. Some of the material relative to teaching techniques now in the possession of research students of education will be available and helpful when that time arrives; however, relatively little knowledge dealing specifically with the techniques of vocational teaching of college grade has yet been uncovered, and the research student in education will find here an important field of investigation. In the vocational fields of less than college grade there seems to be a tendency to stress general education in those departments where little is required by certificating authorities and to emphasize graduate study for teachers who hitherto have had to meet college-graduation requirements. These trends are not the result of increased certification requirements but seem to be the outcome of other influences that have proved inescapable. Among these are the tradition that teachers should have superior education and the general attitude toward the vocational courses of the academic teachers with whom the vocational teacher is associated. Not only does the vocational teacher of inferior general education find himself in an uncomfortable position with respect to his colleagues, but both he and his work suffer in prestige in the eyes of the students and the community at large. Besides, there is good reason to believe that all teaching is inherently conditioned by the degree of general education possessed by the teacher. Teaching, after all, does not partake of the nature of a mechanical trade but is essentially a professional calling, depending for its success upon qualities of intellect and personality. It requires sensitive emotional qualities, adaptability, and versatility. Hence, the person selected and cultivated by the processes of general education is in a much more favorable position to handle skillfully the techniques of instruction and to meet the general situations of school life, whatever the subject matter of instruction, than the meagerly educated, however skillful he may be in the manipulative processes of the vocation he attempts to teach. Thus, the tendency of vocational teachers of vocations of lower than college grade to seek higher academic education is probably an inevitable outgrowth of environment and of the professional demands made by their position.

That such education cannot serve as a substitute for mastery of the vocation to be taught needs only to be stated to be accepted. Any increase, therefore, in the quality of general education among vocational teachers is clear gain. It is so early in the history of vocational teacher training that it is difficult clearly to define other tendencies. In general, it may be said that increasing attention is being given to the problem of the selection and training of vocational teachers, and that real progress is being made in the development of training programs and in the refinement of procedures.

Summary

The preparation of teachers of the vocations is one of the major functions of vocational education. The problem differs in detail at the two levels of (1) vocations of professional grade and (2) vocations of less than college grade. Fundamentally, however, the two phases of the problem have much in common. In both cases teacher preparation involves (1) selecting suitable persons to train, (2) providing adequate and desirable general education, (3) providing needed technical knowledge, (4) developing necessary vocational skills, (5) providing practical vocational experience, (6) providing needed training in teaching ability, and (7) developing desirable vocational attitudes. The relative emphases among the several factors varies with the vocational fields to be dealt with. In general, there are two types of teacher training needed, one for experienced practitioners of the vocations to be taught and the other for young persons who have not entered the practice of the vocation to be taught. Both types present special problems to teacher-training agencies, but experience and research are providing solutions that ensure continued progress in the years ahead. At the professional level, scholarship and advanced technical knowledge have been the prime considerations in the selection of teachers though there are indications of a growing interest in training in sound methods of teaching. At the subcollege level, much progress has been made in the development of programs designed to improve teaching methods, and there is a growing interest in requiring broader general and professional education for vocational teachers. Every factor in the present situation points toward increased general interest in and professional study of the problems involved in the preparation of teachers of the vocations, whether of the professions or the subprofessional vocations. The future of vocational education at both the professional and subprofessional levels will be determined, in large measure, by the effectiveness of the teacher training provided. For this reason it is highly desirable that the whole range of problems involved be given much more thorough and scientific study than they have yet received.

QUESTIONS AND PROBLEMS

1. How do you account for the frequent lack of appreciation of the need for the professional training of vocational teachers?
2. Outline a scheme for the selection of prospective agriculture teachers. Outline a similar scheme for prospective homemaking teachers.
3. List the requirements in general education you would set

up for candidates for teacher-training courses in (1) law, (2) civil engineering, (3) automobile mechanics, (4) elementary-school teaching, and (5) office filing. Defend your requirements.

4. List the advantages and disadvantages of conducting teacher training by means of itinerant teacher trainers.
5. Outline a course of teacher-training activities desirable in training a group of experienced mechanics to become competent trade teachers.
6. List and briefly discuss the most important problems of training teachers of the vocations.

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CHAPTER XVIII

Organization and Administration

Location of Schools or Classes

General education is designed to meet common needs. For this reason schools of general education should be located wherever people are found in sufficient numbers to justify the offering of group instruction. Vocational education, on the other hand, is specific. It is designed to train selected individuals for specific vocations. It prepares for specialized activities that are carried on under particular conditions. Furthermore, it requires observation of, and participation in, vocational work during the training period if the best results are to be obtained. Hence, vocational schools are most effective when located in close proximity to important centers of activity in the vocations for which training is being given. A medical school is best located in the neighborhood of a large hospital and a law school in a population center where numerous courts are in session and much litigation is continually in process. Not infrequently, the captious objection to proposals for universal vocational education is raised that, "Since there are thousands of vocations, it is absurd to ask every school district to try to prepare all its pupils for their lifework." The obvious meaning, usually, is: "Therefore we should not try to do anything about it but should leave everyone to work out his own salvation." Perhaps the best answer to the objection is that vocational schools of any given field of work should be located, insofar as possible, either in or near the centers of activity of the given vocations. Such an answer seemingly is sound for the greater number of vocations; but there are many occupations that are carried on everywhere, without regard either to the number of people in the community or to its geographic location. In such cases, it seems that the factors of cost and efficiency of instruction should be the determining ones in locating vocational classes or schools for the training of those who expect to enter these occupations. Thus clerks, automobile mechanics, nurses, carpenters, plumbers, and homemakers, may, with good reason, be trained in a local school in any community, or in a near-by larger town, or at a distant school located in a center offering especially favorable training conditions. Mere distance is no longer the serious obstacle it formerly was to the person who wants special training. The determining considerations in any given case must be the cost of instruction to the individual, the cost to the community, and the possible efficiency of the instruction. A practical consideration in any community is the number of persons desiring instruction in any one vocation. In certain cases it doubtless is justifiable to pay all or part of the cost of sending a young person to a suitable school in another community. The best way to provide the best training should be the criterion for the selection of the location of a school.

State Responsibility

The factors involved in the location of vocational schools point clearly to the proposition that, without regard to consideration of governmental policy, no political unit smaller than the state can adequately cope with the problem of providing equality of opportunity in vocational education. The offering of training for the many vocations requiring special preparation, the location of training schools in appropriate centers, and the provision of opportunity to individuals in isolated homes or small poor communities become less imposing problems when viewed as a statewide undertaking under centralized state supervision and support rather than as matters of local initiative and support. This view has long been accepted and acted on in the case of vocational education of college grade. Few object to making the training of lawyers, teachers, college professors, school administrators, accountants, newspapermen, engineers, doctors, pharmacists, chemists, dentists, agriculturists, business specialists, librarians, and architects a matter wholly of state concern, without reference to local school authorities. The idea that there is also great need for a similar attitude toward many other vocations is but slowly gaining acceptance, except in the case of criminals who are wards of the state. It is probable that there is no great opposition to such an idea, but it languishes from mere lack of urging and of organized leadership. The assumption of full responsibility, directly exercised by the state, seems to be the next step needed to approach nearer to a democratic program of vocational education.

Need for Expert Direction

Vocational education at all levels presents problems quite different from any encountered in the administration of general education. The situation as a whole is different, and its proper management demands a point of view and a type of training that do not ordinarily characterize the person trained to direct general education. It is extremely difficult for any but the specialist to grasp the implications of the specific character of vocational education. The administrative head of a program of such education ought to be one who has a philosophy of education requiring specialized vocational training as a necessary aspect of the education of every man and woman. With such a philosophy as a background, the effective director needs technical training in the basic methods and administrative techniques of vocational education. All too often, well-planned, smoothly functioning programs in city schools are run onto the rocks and wrecked, or hopelessly handicapped, by school officials high in authority who seemingly can think only in terms of general and cultural education. To make vocational education basically a school function, originating in school initiative but at the same time fully cooperating with the appropriate vocations of the community, requires a high degree of executive ability and technical knowledge rarely found in combination. Successfully to meet the essential conditions of effective direction of vocational education, however, requires such ability and knowledge, and only the specially trained person has much chance of success. Hence, sound administrative practice makes it necessary to delegate the direction of all vocational education to well-trained specialists. This principle is rarely violated at the college level of vocational education. That it is equally important at lower levels is too often not appreciated by public-school authorities.

Unit Control, Dual Control and Support

Inspired in part by the long controversy between the protagonists of specific vocational education and the advocates of a basic, generalized sort of training scarcely differentiated from cultural education and in part by the success of Germany in producing skilled industrial workers under a distinct system of schools designed to that end, a controversy developed during the early years of the present century over the question of the desirability of a dual system of public schools. The idea back of the proposals for such a system was a sound one, insofar as efficient vocational education is concerned. It was said that vocational education of less than college grade could never find impartial treatment at the hands of the prejudiced or half-convinced administrator of the traditional schools. Money for public education would first be spent on general education, and whatever was left over would be grudgingly used to maintain inadequate, diluted offerings in vocational education. Hence, the only way to get a genuine brand of vocational school in any community would be to provide a separate school tax, administered by authorities thoroughly in sympathy with vocational education. A bitter fight raged over the question, centering chiefly in Illinois, where a law was proposed that would create a separate system of vocational schools. Many schoolmen opposed the change chiefly on the ground that vocational education would make so strong an appeal to the common man that, before many years, the vocational school would be receiving the lion's share of all available support for education. For the most part, however, the battle was fought out on the ground of basic policy–what is best for America in the long run. From the standpoint of democracy the weight of reason seemed clearly to rest upon the side of a single system of schools, so organized and conducted as to offer appropriate opportunities to all. That such opportunities do not yet exist means only that the schools must be made more democratic. That vocational education is, for the most part, retarded in the meantime means only that when it finally is given its proper place it will have it of unquestioned right and will be as firmly seated as all other established phases of public education. This was the attitude of conservative leaders in vocational education, and they were in no small degree responsible for the overwhelming defeat of the movement in Illinois for two systems of schools. Few today question the soundness of the outcome of the controversy; but it is probable that the controversy greatly helped the movement for a genuinely democratic system of education. Shortsighted school authorities must never be permitted, however, to assume that a unit system means one that ignores either individual differences or the fundamental need of every person for both cultural and vocational education. A dual system properly safeguarded to prevent unfairness is far more to be desired than a unit system that ignores the need for vocational education. The desideratum doubtless is a single system justly and adequately providing both phases of education to all the people according to their several abilities to profit from them. The criteria must be the degree to which the schools ensure justice to all, equality of opportunity to all, and the general welfare both now and in the future. In America these criteria mean democracy to most minds. Hence, the most desirable scheme of education is the one most in harmony with an enlightened interpretation of democracy.

Short Units and Part-time Instruction

The definiteness of end and consciousness of need for specific vocational knowledge and skill, which condition the pursuit of vocational training, encourage the use of an intensive, short-unit organization of subject matter. This, in turn, means a unique type of organization. It calls for one based upon varying lengths of instructional units rather than upon the standardized time units of semester, quarter, etc., which govern in the traditional administration of schools. Flexibility of schedules to meet changing individual needs and facility of staff adjustment to such needs are the desiderata of the vocational school organization. This is particularly the case at the subcollege levels. It is because of these requirements that the coordination of general and vocational education in a single administrative unit is most difficult to accomplish. Each phase of schooling suffers to the extent to which concessions are here made to the other. The desirability of intensive, continuous study during long lesson periods and over relatively short terms as the way to effective vocational instruction is generally conceded. To have such a schedule of class or individual teaching necessitates a separate grouping of students from that of general education. To accomplish such an organization it is preferable, in most instances, to conduct instruction in separate schools, thus facilitating the adequate meeting of clearly defined needs and avoiding hurtful friction. It has been argued by some that thus to separate students of vocational and general education makes for undesirable forms of group thinking and loyalties and for inevitable class distinctions and prejudices. But it seems evident that these phenomena occur among students so separated no more than among the citizenry at large and with no more serious effects; and it is probable that the greater effectiveness of instruction more than compensates for any possible disadvantage of such a nature. Since all children attend the same schools during the first eight or nine years, and attend the vocational school under no compulsion (except those who have already withdrawn from full-time school), there can be but small danger of unduly emphasizing class distinctions.

As indicated in an earlier chapter, vocational education is best conceived as an entryway, or vestibule, to occupational life; in which case it usually comes after general schooling is finished and left behind. This is further reason for an organization designed to furnish, in intensive units of effort, just the skills and knowledge desired, unhampered by academic traditions of any sort. When it is acquired as vestibule training, not only is the occupation immediately before one, but the specific phase of the occupation for which training is needed is clearly known. Hence, again, short-unit courses seem best to meet such definite needs. One of the factors of the success of the business college has been the recognition of this fact. Probably more than any other vocational school this one has been a vestibule school. The public schools have been too heavily handicapped by tradition and college-entrance preoccupation to adapt themselves readily to a vestibule way of thinking on vocational education.

The short-unit course is only one of the unique features of the organization of much of the best vocational education. Another feature, even more characteristic, is part-time instruction. As suggested earlier, a marked trend of the times is the shifting of emphasis from preemployment training to part-time schooling after beginning occupational employment. The multiplicity of occupations, the constant increase in specialization, and the necessity for versatility to the extent, often, of changing completely and suddenly from one vocational field to a totally different one have all served to promote part-time vocational schooling. This is true particularly of vocations of less than professional rank but not exclusively. The rising standards of proficiency and knowledge and the enormous increase in specialization in the professions are forcing thousands of professional workers to undertake part-time training courses of various sorts. The slogan, popularized by the army after the First World War, "Learn while you earn," has come increasingly to express the necessity of many thousands; and an extension on a large scale of opportunities for vocational education on such a basis, is one of the major educational needs of the present day. But there is another reason for part-time vocational education that perhaps is just as important as those recited above: The very purpose and nature of vocational training require at least part-time participation in actual productive endeavor under normal occupational conditions. The efficiency of well-ordered apprenticeship has long been convincing evidence of the need of such participation. Hence, it is scarcely open to question, longer, that vocational education organized so as to provide alternating experiences of tuition and actual vocational experience is the most efficient procedure yet devised.

Costs and Support

The per capita cost of vocational education, in nearly all cases, is high when compared to general education of corresponding grade. It is probably true, however, that it costs society less than the failure to provide it. Every normal person has to acquire some degree of vocational training, and its cost to society is relatively great or small according to the way in which it is obtained; if it is acquired by efficient means, the cost is less than when inefficient means are used. Too often those who oppose adequate programs of vocational education at public expense overlook the fact that society pays the cost, in any case, of universal vocational education. It is paid in the low productive efficiency of the multitude of ill-trained workers, in the nonproductive life of the untrained and jobless who are jobless because of lack of preparation, in the blundering of those who try to learn during production, and in the listless activity of those trained in the wrong vocation. Although this seems so utterly intangible that it can rarely be made convincing, in certain vocations it is obviously true.

The untrained physician is clearly a social liability that present-day civilization will not tolerate. Likewise, the untrained civil engineer is too expensive to afford. But that the teacher, the telegraph clerk, the homemaker, the electrician, the diplomat, the salesman, the cab driver, etc., are also much too costly to society when not thoroughly and efficiently trained is not yet clearly realized by the citizenry at large. The increasing interdependence of social life and the almost unbelievable complexity of the economic structure of modern society seem to be forcing such a realization home to the people as no logically ordered discourse ever could.

But why must vocational education, when effectively organized as a school enterprise, be relatively so costly? The answer seems clear: It is the capital investment necessary and the cost of vocational teaching. The latter item involves both the salary of the teacher and the method of instruction. Capital investment includes investment in suitable buildings and equipment. To train a ceramic engineer requires an outlay in building room and equipment out of all proportion to that needed to bring a liberal arts student to a corresponding attainment in the classics. Also, the men employed to instruct the ceramic engineer must be those who would be valuable to industry, else their instruction will be of small value to the school. To secure and hold such men in vocational education, the school must pay salaries comparable to those industry is willing to pay. The kind of medical professor most desirable in a medical college is a man who could make large fees in private practice. And, in varying degrees, such is the case throughout the entire field of vocational education. Not only is this true, but the inherent character of vocational education makes necessary a large amount of individual instruction, thus lessening the relative amount of large-group teaching. All these factors are affected by the type of organization in a given school. Part-time education is obviously less costly than full-time education; and effective cooperation with the vocations concerned in any training program will make possible a considerable reduction in investment in equipment. Good business management in the purchase of supplies and economic installation, use, and care of equipment also enter as items of cost. But in any case, vocational education is peculiarly dependent upon a liberal use of money for its effective operation; and it is usually the item of cost that presents the gravest obstacles in the path of needed development.

It is this factor of cost that makes emphatic the need for public support of vocational education. Private enterprise not infrequently is willing enough to assume the burden but never on any other ground than profit making. And all education (vocational education along with the rest) is inherently of such a nature that it cannot thrive as a means of money profit to the agency providing it. No institution conducted chiefly for profit can wait for its returns and be satisfied with indirect rewards to the extent required of a properly conducted school. Hence, private enterprise is constantly under the temptation to exploit students; and exploitation frequently occurs even when it is not intended as such. A democracy need not forbid privately conducted vocational education, but it must eventually shoulder full responsibility for universal vocational training. It is surely a just charge on public funds, as it is clearly a legal one. And, as the United States is constituted, the state seems unquestionably to be the governmental authority responsible for providing vocational education of all needed types, notwithstanding its high immediate cost.

Importance of Cooperative Programs

It has been suggested frequently in this book that close cooperation of vocational schools and the vocations for which the schools prepare should everywhere obtain. A cooperation that provides a large share of instruction by the vocations not only relieves the school of a heavy burden of cost but makes for the maximum of effective instruction. Such coordination of effort is difficult to organize and maintain. As suggested above, it requires diplomacy, executive ability, and professional skill of a high order. It is the special business of the vocational-education executive. In all such enterprises, the school must take the initiative both in organization and in continued operation. After all, the school is the only specially designed instrument of society for the purpose of providing education; and to leave the initiative to medical societies, trade unions, civic clubs, or any other groups is to shirk the plain duty of a school. At best, education can be only an incidental phase of any organization other than the school. Only cooperative programs conducted by the schools, as permanent parts of their educational programs, can hope to live long enough to be genuinely fruitful. But the working out of such schemes of education is not easy. There are three major problems involved. First, a program must be drawn up that is workable under known conditions and that allocates to the school and to the vocations the instructional experience each is best qualified to offer a learner. Such a division of work requires a broad knowledge of the principles of vocational education and a thorough understanding both of the training requirements in a given vocation and of the local situation. Second, the plan must be presented to, and adopted by, those whose cooperation is sought. An intimate knowledge of both the needs and the character of the cooperating agency is necessary, and mistakes in method of approach are discouragingly easy to make. Finally, the program, when under way, must be constantly, persistently, and most skillfully supervised and directed long enough to bring permanent and ascertainable results. It is the third of these steps that is the hardest. Splendid schemes of cooperative endeavor die almost every year from lack of persistent and uninterrupted direction by those who are sympathetically concerned. It becomes increasingly clear that cooperation between the schools and the vocations is the road to effective vocational education of all kinds and ranks. This problem offers some of the greatest difficulties of administration and must be given much more attention than it has yet received.

Federal Aid

Agricultural education, industrial education, homemaking education, certain phases of business education, military education, and the reeducation of those who have been so injured in civilian vocations that they cannot continue in their accustomed occupations, and, since the Second World War, war veterans, are aided by grants from the Federal government. As a matter of expediency this aid has unquestionably been most beneficial to the country. As a matter of governmental policy it is the subject of much dispute and presents problems that have given concern to publicists since 1789. Is education in any degree a Federal responsibility, or is it wholly a state function? When the state fails, for any cause, to assume its responsibility in this matter, to what extent is it proper for the central government to stimulate, support, or direct educational projects within the states? These are the questions which disturb the thoughtful. Another question is raised by some: "If it is wise or proper to extend Federal aid to vocational education, why not for all phases of public education?" Others ask, "If Federal aid is desirable, is the implied Federal control of education also desirable?" Educators are easily classified in two distinct groups: those who favor or do not oppose Federal aid, and those who oppose it. In this chapter, however, the rights and wrongs of the problem are not of primary import. The important fact is the existence of the aid and the necessity of taking it into account in organizing programs. The aid given to vocational rehabilitation and that given to vocational education of less than college grade involve the meeting of Federal money with a stipulated proportion of state money and carry a large degree of prescription of procedures in the expenditure of the joint funds. While there is a fair degree of accommodation in practice, the standards set up in Federal rulings are quite specific and detailed, and all plans of organization and maintenance must be set out with these rulings clearly in mind. It has therefore become important in all public-school vocational education for the administrative heads to be thoroughly familiar with Federal requirements and the provisions in the laws made by the Congress for Federal aid. The line between supervised aid and unwarranted interference, in such a situation, is a finely drawn one, and to avoid wasteful conflict and confusion of counsel requires great tact and executive ability. The degree of efficiency in this joint undertaking is wholly unknown, but it is clear that vocational education has been rapidly advanced and greatly strengthened. The extent to which Federal aid of vocational education will be carried cannot be predicted with any degree of certainty, but present indications point to its permanence and extension as a governmental policy.

Summary

The efficient organization and administration of vocational education, at any level, present most complex problems. The governing factors are, in many instances, quite different from the established ones in general education; and, seemingly, are not fully appreciated by any but a few school authorities. Among the vexing problems that confront those attempting to develop programs of vocational education are the location of training centers, the setting up of workable cooperative agreements with vocational groups, the securing of trained leadership and direction, the ensuring of adequate and continuous support, the development of efficient instructional procedures, and the effective coordination of local, state, and Federal efforts in certain fields of work. All these problems become much less difficult when the unique character of vocational education is appreciated and when tested principles of its administration are understood. Merely to modify traditional procedures, evolved from experience in general education, will not necessarily suffice for successful administration in vocational education. There is great need for general administrators who are cognizant of the purposes, character, and problems of vocational education and for a more general recognition of the importance of placing the supervision and immediate direction of vocational-education programs in the hands of those specifically trained for such duties. It seems clear, also, that the progress of vocational education will depend upon the degree to which the state assumes full responsibility for support and direction.

QUESTIONS AND PROBLEMS

1. Make a list of vocational schools that are seemingly located with reference to the concentration of workers engaged in the vocations represented, respectively, by the schools.
2. By what procedure would you undertake to prove the soundness of the statement that the state pays, in the long run in any case, for the vocational education of its citizens?
3. Upon what grounds might a reasonable argument be made that there is greater reason to require the state to support universal general education than universal vocational education?
4. List the duties of a city supervisor of vocational education that require special technical or professional training not needed by other administrative or supervisory heads.
5. Contrast the general vocational education situations in states or countries having the dual system of education with those in states or countries having the unit system of education.
6. List in parallel columns the arguments that seem most sound for and against Federal participation in the activities of vocational education.

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CHAPTER XIX

The Program of Vocational Education

Most civilized nations have deliberately created, or have all but unconsciously evolved, a program of general education. Likewise, most such nations have made provision for the vocational education of those who enter certain of the learned professions. Not many countries have set up a carefully designed program of universal vocational education. The fact that the skills and necessary knowledge for the practice of hundreds of simple occupations can still be acquired, with reasonable expedition and thoroughness, by merely observing one's fellow workers and trying to imitate them probably explains, in part, the prevalent negligence and indifference; but it does not relieve a democracy of the responsibility of providing facilities for complete equality of opportunity for vocational education. To ensure such equality of opportunity a varied and elaborate program geared to the intricate mechanism of contemporary social and economic life is an inescapable requirement. That a nation fails to do so means that it has failed to provide a democratic system of education. The difficulty involved in providing such a program in no wise relieves the nation of its responsibility to provide it.

Factors to Be Considered

To design a program that is adequate, genuinely democratic, and workable requires both technical skill and the highest qualities of educational statesmanship. That such a program must of necessity be conceived in terms of a state-wide, if not a nation-wide, enterprise, seems so obvious as not to require proof. At the present stage of governmental development in the Untied States such a program, if attempted at all, clearly must be formed as a state project. To be practicable it must utilize to the limit local initiative and endeavor and, in part at least, take into account Federal aid and supervision. It must comprehend all levels and sorts of occupations and many degrees of cooperative connection with numerous agencies. It must provide for the support and supervision of all public vocational training and superintend the coordination of joint enterprises with private agencies. And it must take into account the constantly changing character of all economic life. Merely to list the factors entering the problem is to show clearly enough the difficulty of the undertaking. But, however difficult, it must be done if the problem of universal vocational education ever is to be solved.

Classification of Occupations

An early step in the making of a program must be the classification of occupations on some basis that implies different types of vocational education for the various occupational groups. Possible divisions of the universe of occupations are (1) a division into semitechnical and technical, (2) a classification as agricultural, mining, manufacturing, transportation, trade, public service, professional service, domestic and personal service, and clerical occupations, and (3) a grouping as unskilled, semiskilled, skilled, semiprofessional and professional. Obviously none of these classifications designates definitely traced boundaries; neither is any one of them perfectly satisfactory for purposes of program making. However, one of these three, or a combination of them, doubtless will provide a reasonably satisfactory division of vocational activities to enable the program makers to define the types of education desirable. The last of the three enumerated has received the most consideration in discussions of vocational education and seems to offer the best basis for planning the larger features of a program. But first, some sort of definition of the terms used is needed. Arbitrarily, it may be determined that (1) an unskilled occupation is one that may be learned within a few hours or days; (2) a semiskilled occupation is one that may be learned within a period of a few weeks; (3) a skilled occupation requires a training period of several months or possibly two or three years; (4) a semiprofessional occupation requires one or more years' training, built upon a general education of about the advancement of high-school graduation; (5) a professional occution is one requiring special training of two or more years of university grade. The same grouping may be defined further, in terms of degrees of intellectual qualities and attainment, as (1) low degree of intelligence, and schooling sufficient to enable one to read and write; (2) average intelligence, sixth- to eighth-grade graduation; (3) eighth-grade to high-school graduation, intelligence somewhat above the average level, etc. By combining these two sets of definitions, inexact as they are, a sufficiently specific gradation of qualities is established to make possible the setting up of the general outlines of the types of vocational education needed in each case. The outlines can be still more definitely drawn when the economic and social factors in each group are listed. The first three groups involve the lower levels of the economic scale, where income rarely exceeds outgo, and great pressure and urgency of economic need is constantly felt. The three groups differ in this regard only in degree, and the social status of each is usually in harmony with its economic status. The semiprofessional group constitutes the great middle group of persons living and working, for the most part, in the economic and social areas lying between the skilled worker and the professional group. The members of this group work under more favorable conditions than those who work for wages by the day but under conditions somewhat less favorable than the more privileged professional classes. Obviously, such a statement can be true only in a very general sense since many individuals of this group rank higher, both socially and economically, than professional workers; but, in the large, the statement is sound. The professional group includes people of the highest culture and greatest responsibility for the perpetuation of the significant social institutions. They are, in a sense, the privileged class of democratic society. Accepting such a classification as workable, we can sketch the types of training needed by each group.

Appropriate Types of Training

The manual skills needed by the unskilled are extremely simple and easily acquired. The need is chiefly for intelligent supervision. In industrial pursuits, this need may be supplied through effective foreman training; and in other fields it can be provided through corresponding training of supervisory heads by special instruction in personnel management. Much splendid progress has been made in both the commercial and industrial fields at this point; but opportunity for training under competent overseers should be made more nearly universal. Extension training of various sorts, promotional programs, and the setting up of supervisory standards by state vocational authorities is the needed move at this level. However, the greatest need of the unskilled is not training in manipulative processes but is rather of the nature of related knowledge. It consists, primarily, in safety information, habits of conduct conducive to safety and efficiency, health habits, and thrift habits. These must come to them through intelligent work supervision, through propaganda by means of the many channels of communication now open, and, in special cases, through intensive brief campaigns of group instruction. Obviously, no sort of vocational school, in the accepted sense of the term "school," is required for these purposes. The needs of the semiskilled are identical with those of the unskilled, except that they need, in addition, a brief intensive training under tuition in the skills required of them. This can be provided through special training courses for new employees, through special teaching foremen or supervisors, or merely through the instruction given by the regular overseer, foreman, or supervisor. Hence, a state program must give no small attention to training for the teaching function those who oversee unskilled and semiskilled workers. In special cases intensive short-unit school training in specialized skills is indicated.

The other groups of occupations are of a character to suggest provisions of a very different type from those needed by the lower grades. As the quality and amount of both skill and understanding rise, the vocational education required becomes correspondingly advanced in character. As the occupational level rises, not only do the kind of knowledge to be had from the printed page and the skills and attitudes transmitted through schools of general education become increasingly important, but systematic training in technical knowledge likewise becomes progressively requisite. Hence the tendency increasingly to provide some kind of school vocational education for all those engaged in occupations above the semiskilled grade is strong. For training of less than college grade, however, vocational schools modeled too closely on the pattern of schools of general education are not proving satisfactory. They lack the requisite flexibility of organization, both of course material and of personnel; and they are not sufficiently accommodative to cooperative training schemes with other agencies. Thus, experience is developing a type of vocational-school organization that can easily be adapted to the economic necessity for part-time work, to fluctuating employment conditions, to specialization needs, to brief promotional training needs, and to various part-time, cooperative agreements with industry, business, the home, the professional office, etc., as the cases arise. That is to say, the vocational school most valuable to those preparing for vocations above the two lowest grades and below the professional grade is a school organized, either wholly or partially, on a part-time basis. Its curriculums will include many short-unit courses, arranged most flexibly with reference to hours when given, and to sequences; its contact with the occupational world about it will be most intimate; and it will be able at any time to coordinate its offerings with the learning experiences (in work hours) of its students.

At the professional level, there is a body of rich tradition and experience to draw on. The vocational school for the professional man is one of society's oldest schools, if, indeed, it be not its oldest. Training schemes are well established, and, in the main, results are satisfactory. Rapidly changing standards of service are making for many changes in these schools, and some radical modifications seem to be imminent. But the larger outlines of professional education are well known, and their problems are chiefly those of modification rather than of creation or total reconstruction. The professional man must be a broadly educated man, trained to define and assume his proper degree of responsibility to clients and to society. He must be uncommonly adaptable, both in social intercourse and in the applications of his knowledge and skill. Hence, he must be thoroughly trained in technical knowledge and professional skill; and his vocational training must be built upon, and closely allied with, an unusual sort of general education. The problem seems to be one for the university to manage, and the state has already accepted responsibility for its provision to the full extent of the needs.

Transfer and Promotion

In a democracy it is not enough merely to provide opportunity at each occupational level, but the program of vocational education must provide for advancement from one point to another. And modern economic conditions make emphatic the need, also, for opportunity to learn quickly the skills and technical knowledge of another vocation on the same level in case a vocation disappears or the demand for workers shifts. When some years ago a railroad company changed all its suburban trains from steam to electric operation, it meant for many experienced locomotive engineers either unemployment or the mastering of new vocational skills and technical knowledge. Most of the men chose the new vocation and took training that enabled them to change from one vocation to another, both of which required large amounts of special preparation. In this instance, the training was given by the employing company, but thousands of similar emergencies arise in modern life where retraining is to be had only at great cost to the worker, and under conditions the most adverse. Transfers from vocation to vocation at the same or similar levels are most likely to occur at a point in the worker's career when family and other responsibilities make impracticable any extended periods of schooling. Hence, any provision made in a comprehensive program for such training must be so conceived as to enable him to prepare as quickly as possible for a new vocation while still engaged in the old. This means some type of intensive, short-unit, evening, or leisure-time instruction, given at whatever place will be the most easily accessible and desirable; it may also include supplementary instruction by correspondence courses or home-visiting teachers. Till now, this great need has, for the most part, been ignored by the state; however, some progress has been made by city school systems in this direction by means of the evening and part-time schools. But the greater number of those seeking aid in transferring from one vocation to another must depend upon privately operated vocational schools, correspondence schools, corporation training departments, or the still more costly procedure of self-education by the age-old trial-and-error method.

Training for promotion involves much the same factors as training for transfer, but in addition presents another aspect. Promotion is not necessarily a reward for work well done, but rather is a recognition of ability to do the work of a higher level. It implies a broader foundation than that needed for the work in hand and indicates expanding powers and qualities of adaptability and versatility beyond the common run of fellow workers. All these suggest breadth of education and selection of character. Hence, promotion is probably best prepared for by extending both the general and the basic-vocational education in the preemployment school period of preparation. One of the products of a broad education is an extended range of adaptability, and this is true in the case of vocational education as it is in that of general education. Thus, the most important provision for education for promotion is a thorough preparatory experience, both in general disciplines and in vocational foundations. But under best conditions of basic education, some type of vestibule training in the path to the new, higher occupation is needed, and it ought to be included in any carefully planned program of vocational education.

Vocational Guidance

Any adequate program of universal, state-wide vocational education must include provisions for aiding people of all ages and conditions to find and enter the work they can do successfully and with contentment, if not enthusiasm. The need for such assistance increases with the growing complexity of the economic constitution of society. Day by day the need grows. Effective vocational education is conditioned, in large measure, by the wise selection of those to be so educated. Stated another way this means that it is conditioned by the wise selection of vocations by its students. Hence, there is an inevitable and intimate connection between vocational education and vocational guidance. This relationship has already been elaborated in Chapter XIV, and it remains only to say that the giving of occupational information, the offering of advice by trained counselors, and the establishment of placement and personnel adjustment agencies for all who may need them must be provided in any comprehensive program of vocational education. Vocational guidance is obviously needed at the college level, as it is at all lower levels; and opportunities for expert counsel and assistance by those long out of school are likewise desirable. Perfect occupational adjustment is not to be expected of organized guidance, but less maladjustment and more contentment are reasonable ends for which to strive. Like vocational education, vocational guidance is too varied in its occupational relationships to be fully effective when conceived on any but a state-wide basis.

Allocation of Responsibilities

Repeatedly it has been urged in this and earlier chapters that vocational education is too complex to be dealt with as a single undertaking of some school or type of school. In all cases, it must be conducted as a joint enterprise of several social agencies. In a day of varied offerings in schools of general education there should be a degree of correspondence between one's general education and one's vocational education, which in a sense is built upon it. In most cases, this is not possible except in a broad sense; but to the extent it is possible it is to be desired. For boys and girls destined by all observable circumstances to spend a large part, if not all, of their lives in industry, agriculture, commerce, professional endeavor, or other economic areas, the basic general education can well be colored by such probability. Differentiation in emphasis, at least of subject matter, on the basis of probable occupational future is seemingly needed in general education. It would exemplify more nearly the spirit of democracy than the common practice of pointing all instruction toward high-school or college entrance. There is, of course, great lack of accord on this proposition among educators, but there is ample ground for the assertion that the first responsibility in preparing a person for his vocation is that of shaping his general education so as to be of the greatest probable value to him vocationally. This implies a close cooperation among the agencies controlling general education, vocational guidance, and vocational education. Such cooperation happily exists in some communities, but it ought to be an organized policy of the whole scheme of universal education.

But the process of vocational education reaches beyond the organized school into the activities of vocational life; hence, clearly defined areas of responsibility between the schools and the vocations are also necessary items in a program of universal vocational education. The kind and amount of contribution each must make to one's vocational education will vary both with the vocation and with the individual; thus the definition of responsibilities must be made in large terms. In general, the vocation must bear the greater burden in teaching the skills and in making adjustments of theoretical knowledge. The school, likewise, is chiefly charged with providing basic knowledge, habits of thought, attitudes, and technical facts. But these allotments must often overlap and vary. The important matter is that each shall know its part and perform it in a spirit of cooperation.

A more vexing problem is that of a determination of areas of responsibility and activity properly belonging to Federal, state, and local governments, respectively. Theoretically, this question leads to endless debate, and reaches to the very roots of the philosophy of all government. In the light of expediency, and of administrative experience, it resolves itself into a problem of distributing duties on a basis of ability to function most effectively. Thus it appears that the local authorities, being closest to the individuals, can best define local needs and establish and maintain local undertakings. Meanwhile, the state can encourage, advise, and supervise the local endeavor, sharing in the support if need be. Where local resources are utterly inadequate, or local authority hostile or entirely indifferent, the state should provide for the needs of the people either locally or at some accessible place. In the case of vocations that are of such character as to make advisable a single training center for an entire state, the state should assume full responsibility for its establishment, direction, and support. In addition to these functions it seems clearly in harmony with sound policy for the state to license, regulate, and, when necessary to the general welfare, supervise all privately supported vocational education of whatever character. It is the function of the state to initiate, direct, and, where necessary, support vocational education. In no other way can equality of opportunity be ensured to all the people. The Federal government is too remote to be able to ensure more than uniformity of practice, which is a very different thing from equality of opportunity. But there is a part which the Federal government can play, aside from providing financial aid, and that is to act as a clearing house for information. It has the facilities easily to gather facts from the entire country, to summarize, interpret, and disseminate these facts, and to use them to stimulate progress among the states. It may with profit to all concerned, also, aid in the establishment of standards of achievement. Its function should be confined to contacts with state authorities, and it should not reach beyond such authorities to local programs. These seem to be the divisions of activities and responsibilities that experience is establishing though the state is but slowly developing toward its proper place in the program. The state must come to be the center and generating force of the program. The local community should be an instrument of the state, where it clearly is the best instrument; and the Federal government can best serve as an aid to the state in its endeavor to solve its own problem in the most appropriate manner. There is much reason to believe that such an allocation of functions is also sound theory, when the genius of the governmental structure of the United States is considered.

Relation of the Program to the Educational System

It was pointed out in the preceding chapter that there are plausible reasons for separating certain phases of the vocational-education program from the general system of public education. It is probable, for instance, that industrial education would be much more vigorously promoted by a state department of labor or industry than by a state department of education and that commercial education would receive much more zealous attention from a state department of commerce than from the educational authorities. But that both the state and the individual would be better served by such a division of forces is questionable; is, in fact, extremely doubtful. In the long run, it is probably much safer to have the people think of all phases of vocational education as integral parts of the common scheme of public education. Vocational education will never be available to all on equal terms until it is so conceived by the general body of the citizenry; and the earlier in its growth it is made an accepted, customary division of the state program of the common system of schools, the better it will be for all concerned. To separate the two aspects of education, giving general education to the department of government responsible primarily for public education and the various divisions of vocational education to departments primarily not educational, is likewise to separate them in the minds of the people. This would serve only to perpetuate the wasteful custom of giving a type of general education wholly unrelated to any possible vocational needs and to continue the hurtful notion that vocational education and general education are two competing, antagonistic schemes of training. A democracy can ill afford to foster such a belief; and the safest way to destroy it is to coordinate the programs of vocational and general education in such a manner that all may clearly see that each is but a facet of a unified whole, which every person, in the nature of things, must possess or become either an object of charity or of public support as an incompetent. Perfect coordination may allow a separation of activities, but it will not countenance a separation in control, support, and interests. It will provide for easy passage from one to the other at many points, and for an accommodative administration of each that will make easy the concentration of the facilities of either, or of both together, in meeting unusual individual needs. The too common rivalry and suspicion between the two divisions of education, which still exist even in single school systems, make the rendering of such a service to the individual child, man, or woman all but impossible. Only by a complete coordination of the vocational-education program with that of general education will a genuinely democratic system of public education be created.

Summary and Conclusion

Throughout this volume, it has repeatedly been stated that vocational education, rightly conceived, is not a special type of training, that a person may choose to acquire if his fancy so direct, or fail to get, if he prefer other training, but it is a necessary phase of the education of every normal person, however or wherever it may be got. It has also been stressed, in not a few places, that modern economic life makes emphatic, with a constantly increasing urgency, the importance of providing opportunities for definitely planned, carefully ordered training in a steadily growing list of vocations that previously were learned by informal methods of apprenticeship. In many instances the patent implications of democracy have been urged as irrefutable argument for universal vocational education as a public responsibility. All these have led to the assertion of the necessity for a state-wide program of vocational education, administered by the educational authorities of the state, and perfectly coordinated with the system of general education throughout its structure from bottom to top. Such a program, to be adequate to the needs of the day, must provide for all sorts of training under many different conditions of operation, and for all grades of vocations. It must comprehend the direct training of the overseers of unskilled workers so that such workers may thereby indirectly be served by the program; it must provide part-time instruction, instruction by mail, radio, itinerant teachers, or any other means of reaching people who must work most of the time for wages; there must be vocational schools of all sorts, meeting at times of the day and year that will make them most serviceable to those needing help; and there must be schools for children of secondary-school age, for college-grade young people, for people of postgraduate standing, and for those of no academic standing of any suitable age. In a word, a program of universal vocational education must be *universal* in its comprehension. To do less than to provide universal opportunity is to fall short of democracy in education.

QUESTIONS AND PROBLEMS

1. List the factors that cause educational program making to be the extremely difficult task it usually is.
2. Outline a state program of vocational education for your own state.
3. Outline a local program of vocational education for a city school system in a city of about 100,000 population.
4. What changes in the contemporary program of general education would be necessary before a comprehensive program of vocational education could be established in the United States?
5. What advantages are there in a *program*, as contrasted with the usual haphazard procedure in developing vocational-education offerings?

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